CDP-C360Z/CE415

SERVICE MANUAL

US Model
CDP-C360Z/CE415
Canadian Model
CDP-CE415

Photo : CDP-CE415

Model Name Using Similar Mechanism	CDP-C160Z/C260Z/CE215/CE315
CD Mechanism Type	CDM27A2-5BD20
Base Unit Type	BU-5BD20
Optical Pick-up Type	KSS-213BA/F-NP

SPECIFICATIONS

Compact Disc Player

Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output	Max 44.6 μW* * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up block with 7 mm aperture.
Frequency response	2 Hz to 20 kHz ± 0.5 dB
Signal-to-noise ratio	More than 102 dB
Dynamic range	More the 98 dB
Harmonic distortion	Less than 0.0045%

Output

	Jack type	Maximum output level	Load impedance
LINE OUT	Phono jacks	2V (at 50 kilohms)	Over 10 kilohms

General

Power requirements **120V AC, 60 Hz**

Power consumption	14W
Dimensions (approx.) (w/h/d)	430 × 120 × 385 mm (17 × 4 3/4 × 15 1/4 in.) incl. projecting parts
Mass (approx.)	5.4 kg (11 lbs 15 oz)

Supplied accessories

Audio cord (2 phono plugs–2 phono plugs) (1)
Remote commander (remote)(1)
Sony SUM-3 (NS) batteries (2)

Design and specifications are subject to change without notice.

COMPACT DISC PLAYER

MICROFILM

SONY®

The following caution label is located inside of the unit.

CAUTION	;	INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	;	USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO!	;	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING	;	LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL	;	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This appliance is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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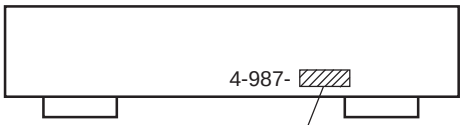
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

MODEL IDENTIFICATION
— BACK PANEL —



CDP-CE415
US Model : 784-0☐
CDP-CE415
Canadian Model : 784-1☐
CDP-C360Z
US Model : 784-2☐

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

SAFETY CHECK-OUT

(US model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

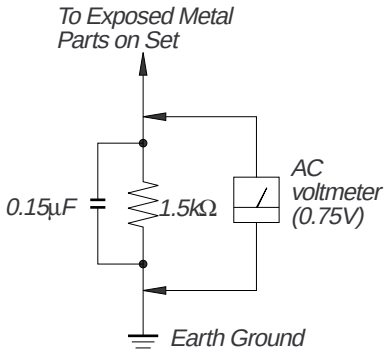
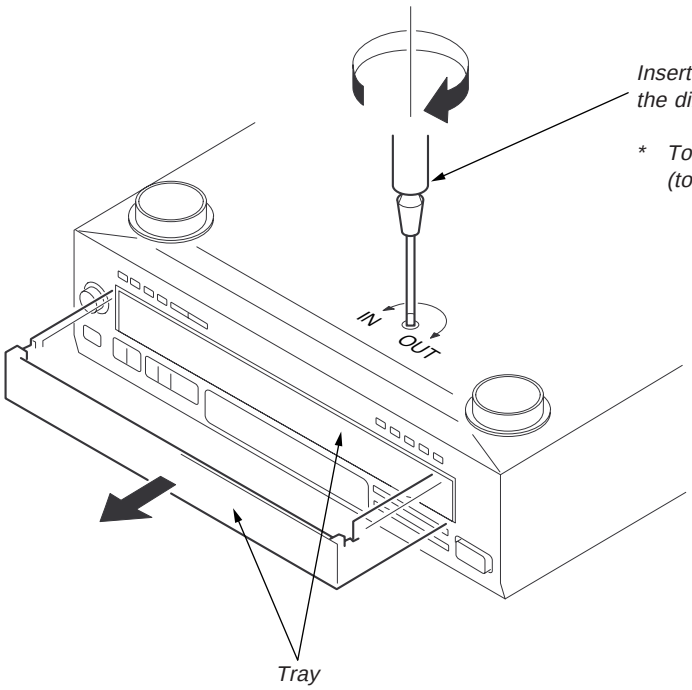


Fig. A. Using an AC voltmeter to check AC leakage.

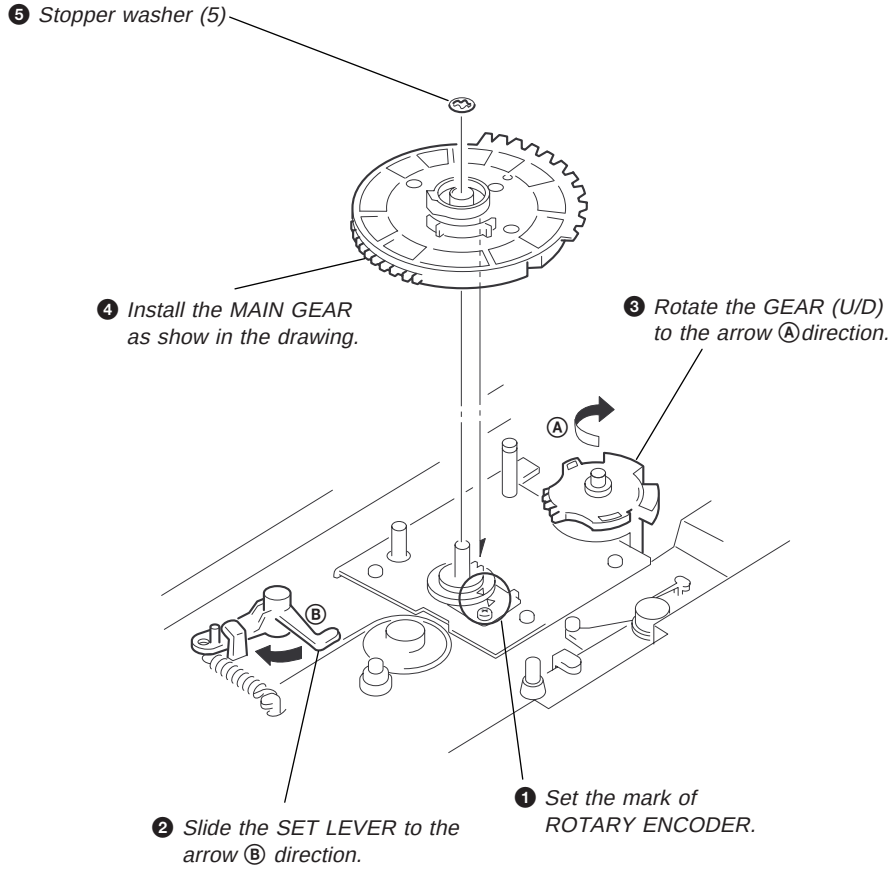
HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



Insert a tapering driver into the aperture of the unit bottom, and turn in the direction of arrow (to OUT direction).

* *To close the disc tray, turn the driver in the reverse direction (to IN direction).*

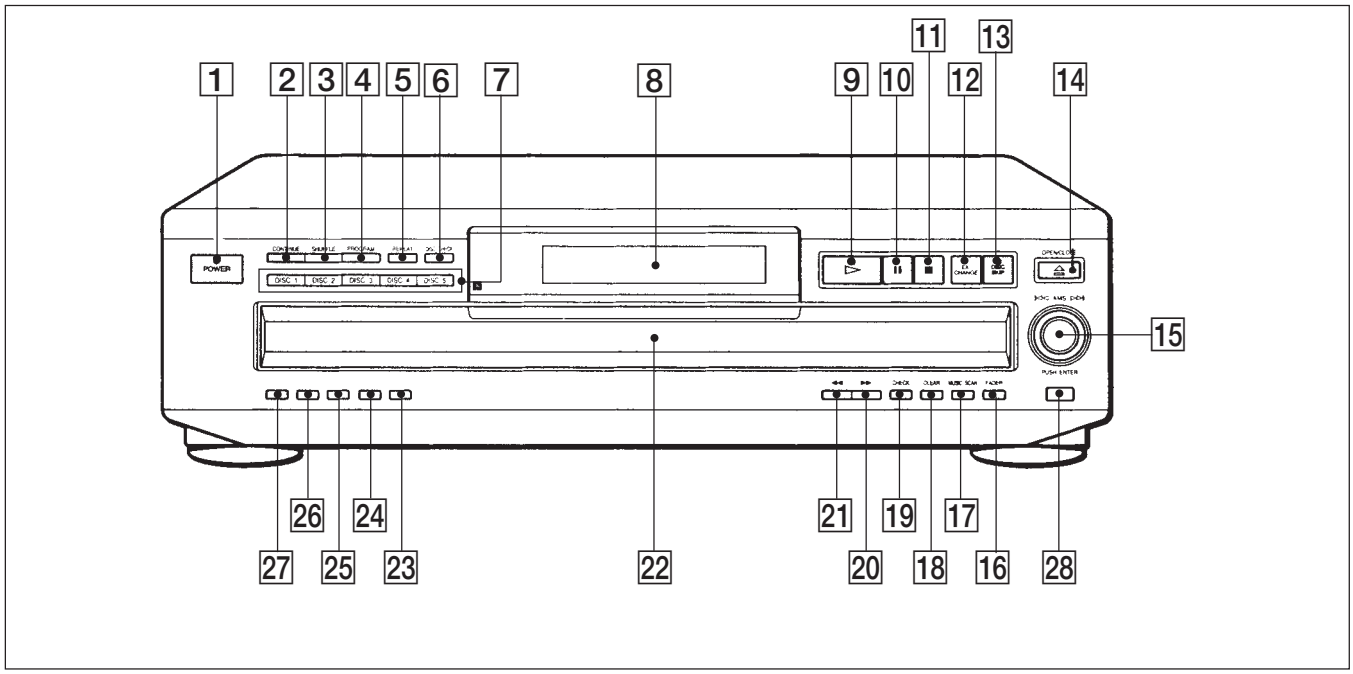
NOTE FOR MAIN GEAR INSTALLATION


❺ Stopper washer (5)
❹ Install the MAIN GEAR as show in the drawing.
❸ Rotate the GEAR (U/D) to the arrow Ⓐ direction.
Ⓐ
Ⓑ
❷ Slide the SET LEVER to the arrow Ⓑ direction.
❶ Set the mark of ROTARY ENCODER.

SECTION 1
GENERAL

Identifying the Parts

Front Panel

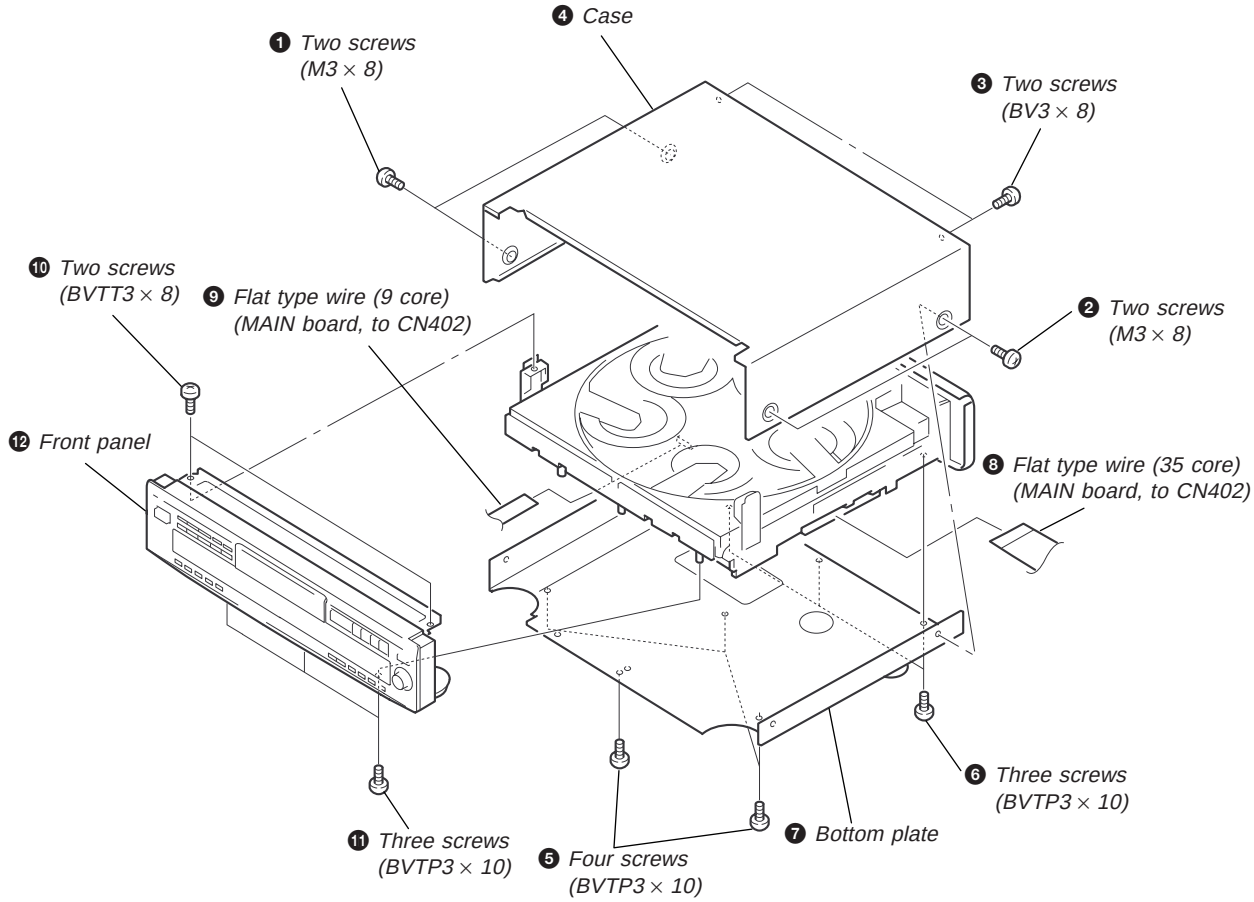


1 POWER switch
2 CONTINUE button
3 SHUFFLE button
4 PROGRAM button
5 REPEAT button
6 DISC CHECK button: CE415 model
TIME button: C360Z model
7 DISC 1-5 button
8 Display window
9 ▶ (play) button
10 ❚❚ (pause) button
11 ■ (stop) button
12 EX-CHANGE button
13 DISC SKIP button
14 ⏏ OPEN/CLOSE button
15 AMS knob
16 X-FADE button
17 NO DELAY button
18 CLEAR button
19 CHECK button
20 ▶▶ (forward) button
21 ◀◀ (backward) button
22 Disc tray
23 PEAK SEARCH button: CE415 model
24 EDIT/TIME FADE button: CE415 model
25 TIME button: CE415 model
26 FADER button
27 MUSIC SCAN button
28 MEGA CONTROL button

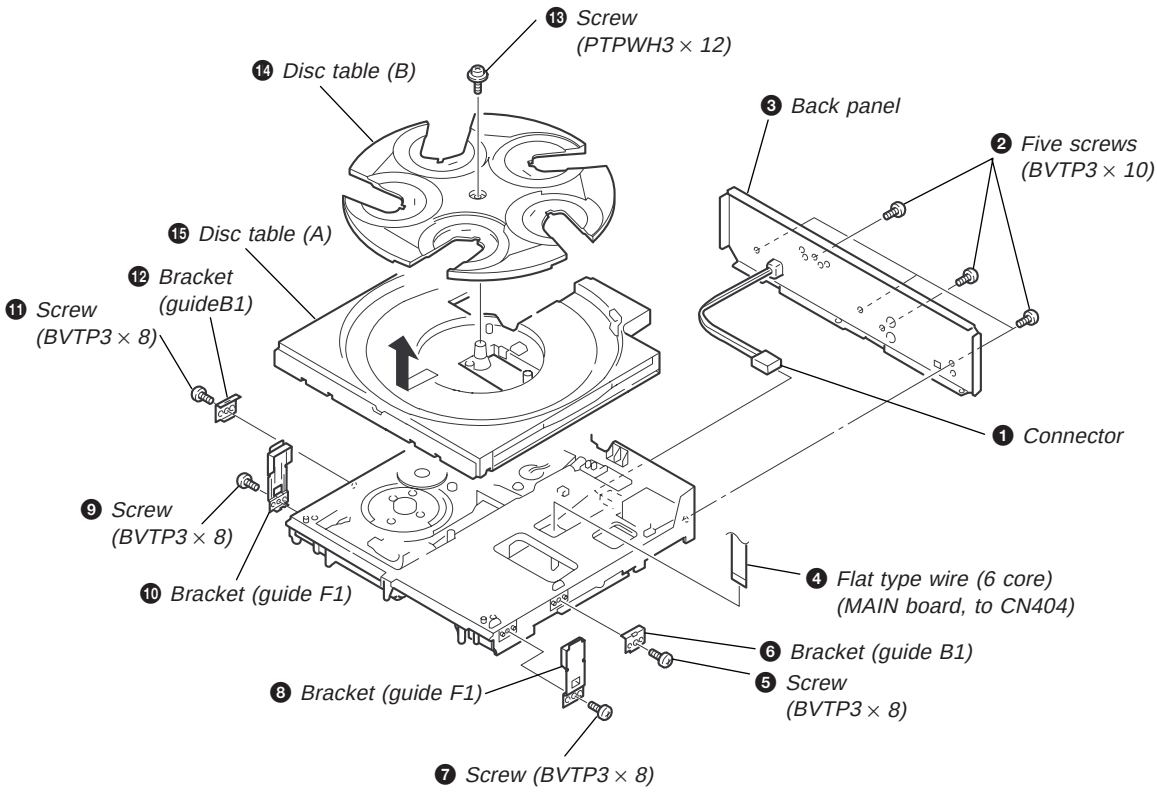
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

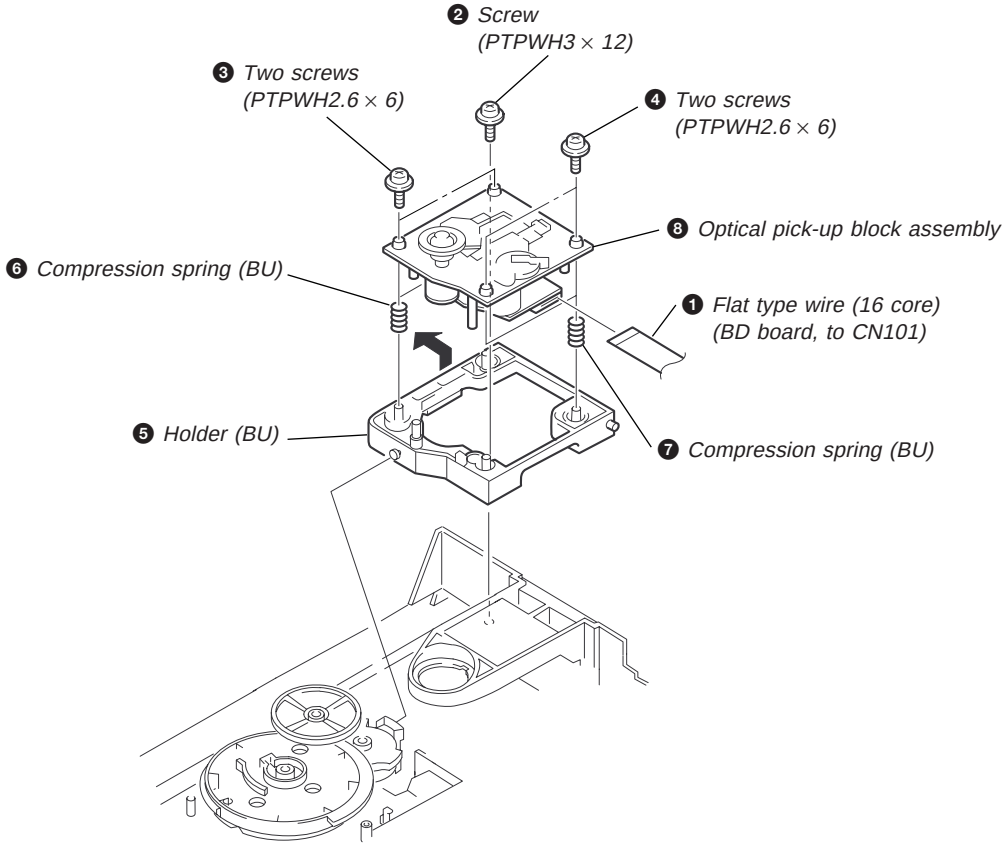
2-1. CASE, BOTTOM PLATE AND FRONT PANEL


❹ Case
❶ Two screws (M3 × 8)
❸ Two screws (BV3 × 8)
❿ Two screws (BVTT3 × 8)
❾ Flat type wire (9 core) (MAIN board, to CN402)
❷ Two screws (M3 × 8)
⓬ Front panel
❽ Flat type wire (35 core) (MAIN board, to CN402)
❻ Three screws (BVTP3 × 10)
⓫ Three screws (BVTP3 × 10)
❺ Four screws (BVTP3 × 10)
❼ Bottom plate

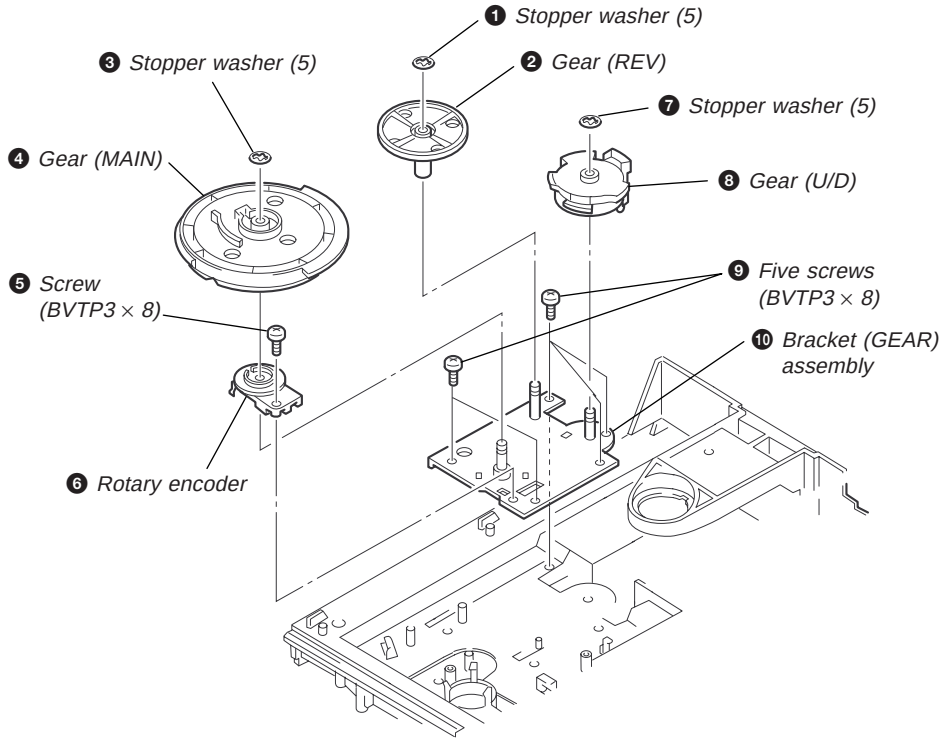
2-2. BACK PANEL AND DISC TABLE


⓭ Screw (PTPWH3 × 12)
⓮ Disc table (B)
❸ Back panel
❷ Five screws (BVTP3 × 10)
⓯ Disc table (A)
⓬ Bracket (guideB1)
⓫ Screw (BVTP3 × 8)
❶ Connector
❾ Screw (BVTP3 × 8)
❹ Flat type wire (6 core) (MAIN board, to CN404)
❿ Bracket (guide F1)
❻ Bracket (guide B1)
❺ Screw (BVTP3 × 8)
❽ Bracket (guide F1)
❼ Screw (BVTP3 × 8)

2-3. OPTICAL PICK-UP BLOCK ASSEMBLY



2-4. BRACKET (GEAR) ASSEMBLY



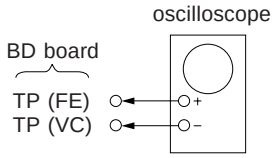
Note : As for the installation of the main gear, refer to “Note for MAIN GEAR installation” on page 4.

SECTION 3
ELECTRICAL BLOCK CHECKING

Note :

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens using an applicator with neutral detergent when the signal level is low than specified value with the following checks.

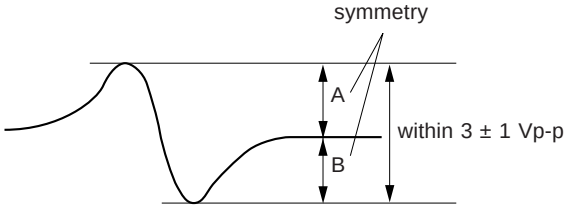
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turn Power switch on again and actuate the focus search. (Actuate the focus search when disc table is moving in and out.)
5. Check if the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.

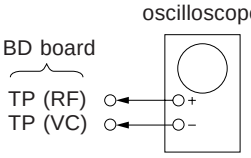
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note : • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



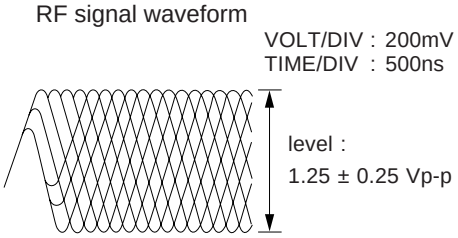
Procedure :

1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check if RF signal level is correct or not.

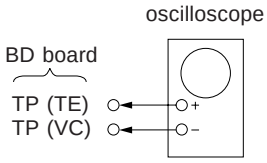
Note :

A clear RF signal waveform means that the shape " ◊ " can be clearly distinguished at the center of the waveform.

RF signal waveform



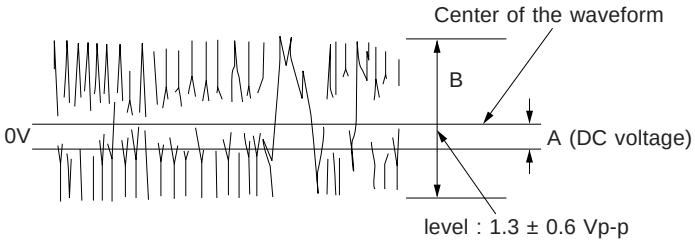
E-F Balance Check



Procedure :

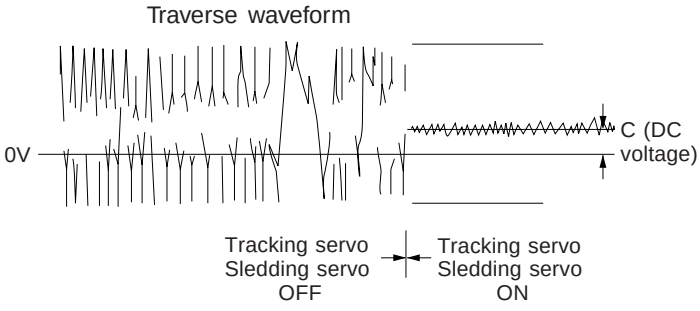
1. Connect test point TP1 (ADJ) to ground with a lead wire.
2. Connect oscilloscope to test point TP (TE) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in to play the number five track.
5. Press the "3" button. (The tracking servo and the sledding servo are turned OFF.)
6. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B × 100 = less than ± 22%

Traverse waveform



7. Press the "8" button. (The tracking servo and sledding servo are turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 6.

Traverse waveform

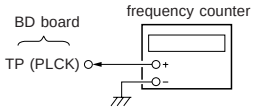


8. Disconnect the lead wire of test point TP1 (ADJ) connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

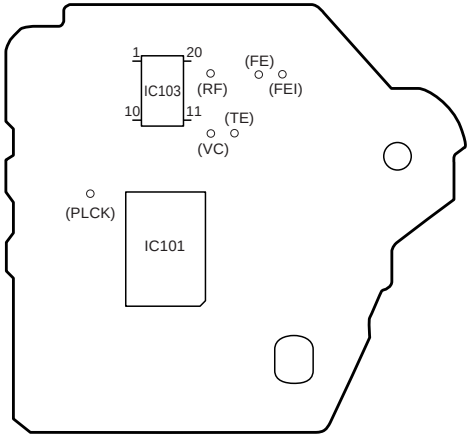
1. Connect frequency counter to test point TP (PLCK) with lead wire.



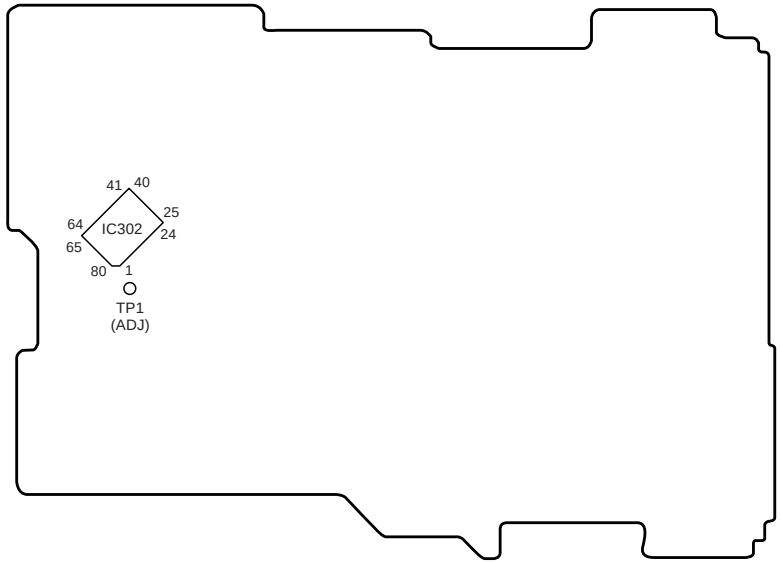
2. Turned Power switch on.
3. Put the disc (YEDS-18) in to play the number five track. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

[BD BOARD] — Conductor Side —

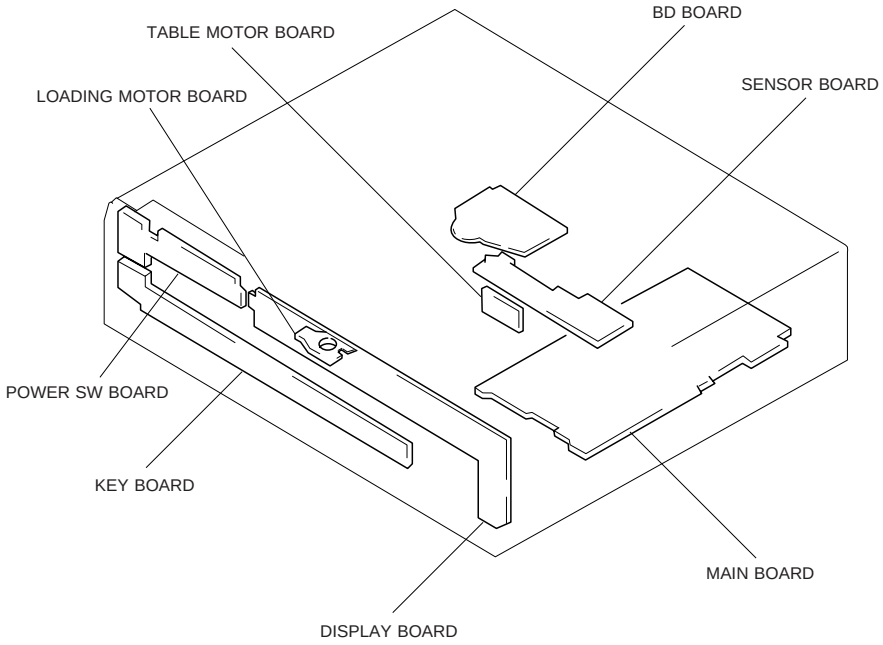


[MAIN BOARD] — Conductor Side —



SECTION 4
DIAGRAMS

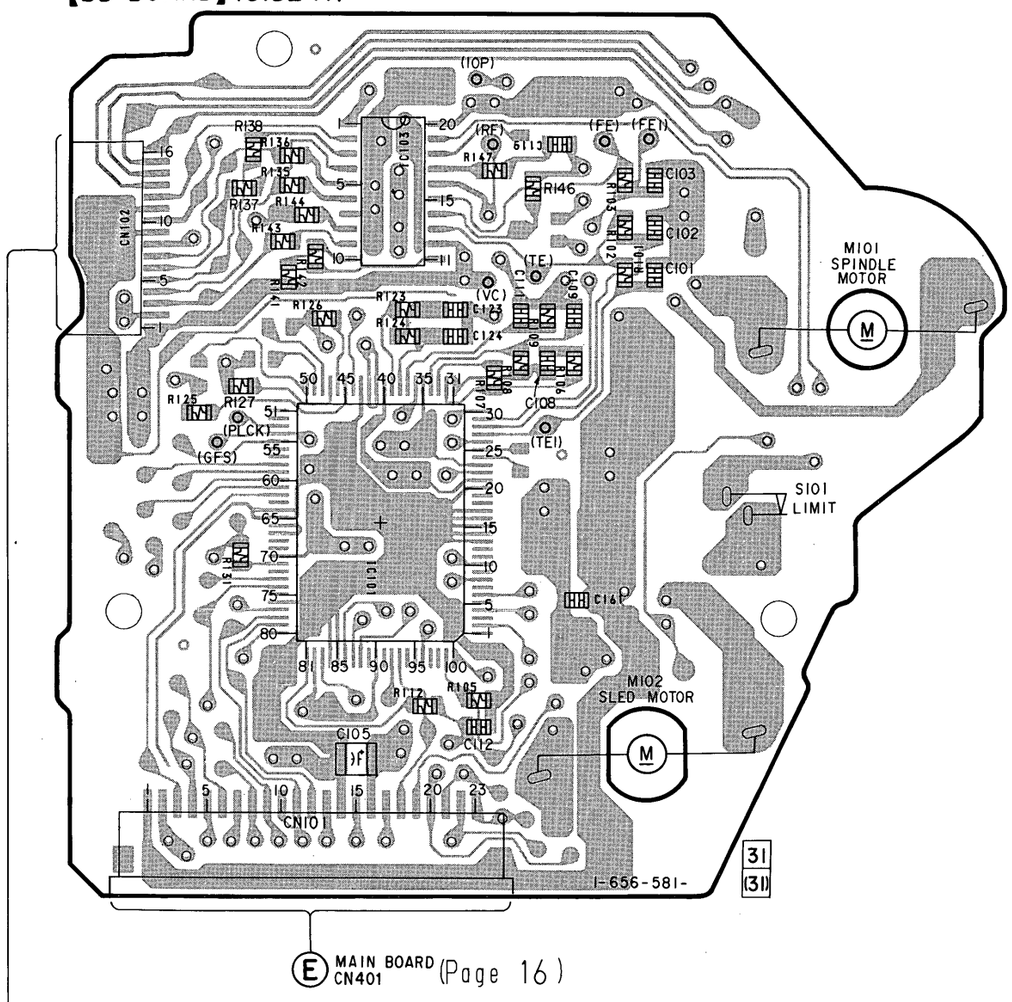
4-1. CIRCUIT BOARDS LOCATION



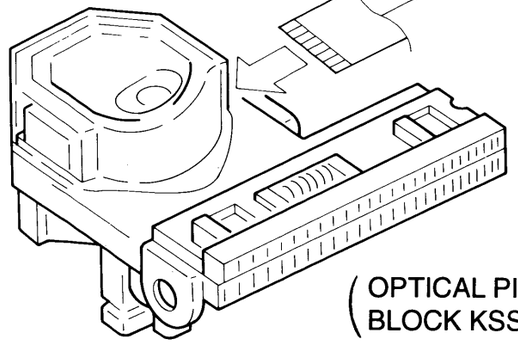
4-2. PRINTED WIRING BOARD – BD SECTION –

• See page 10 for Circuit Board Location.

【BD BOARD】(SIDE A)

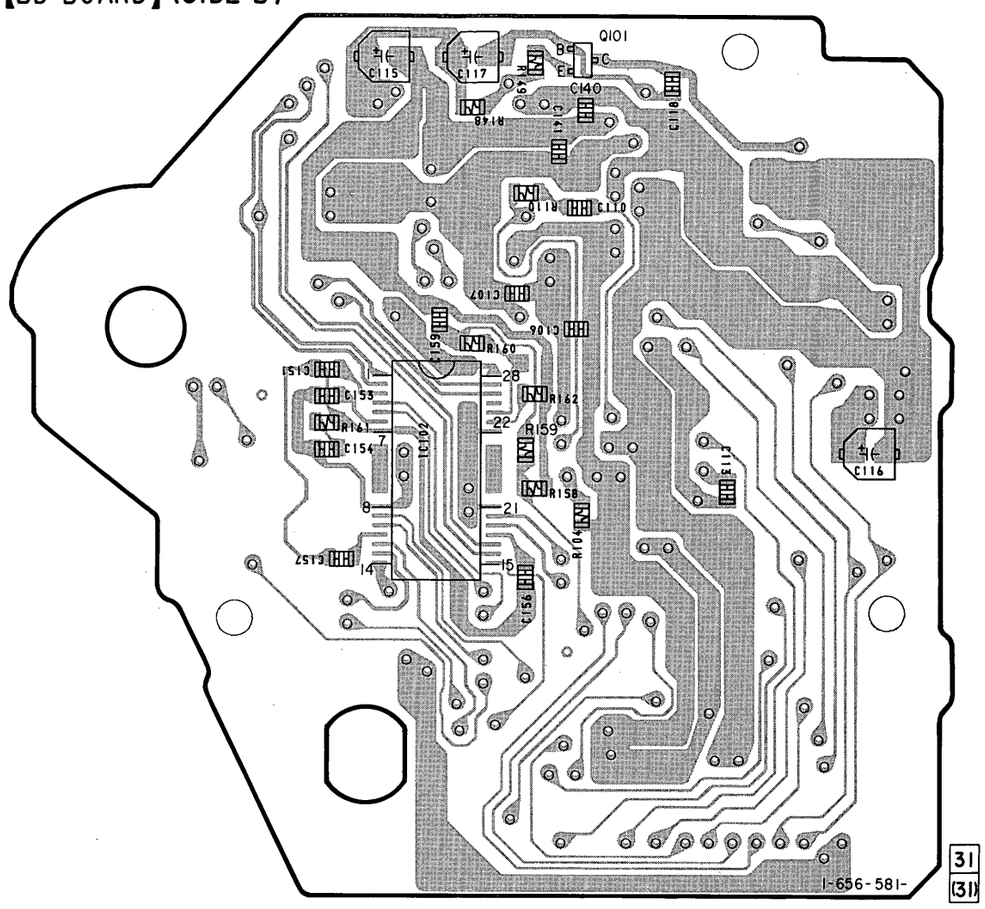


Ⓔ MAIN BOARD CN401 (Page 16)



OPTICAL PICK-UP
BLOCK KSS-213BA/F-NP

【BD BOARD】(SIDE B)



• **Semiconductor Location**

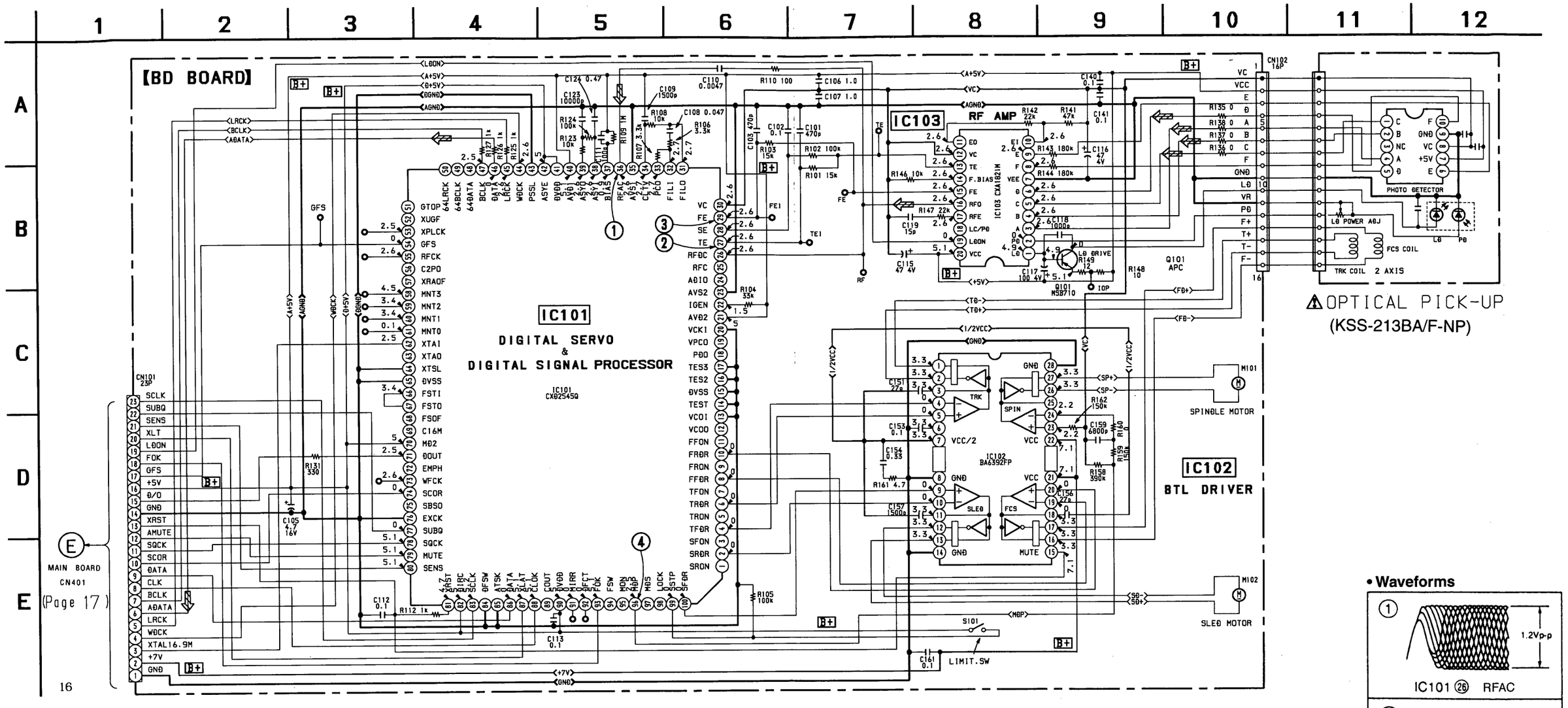
Ref. No.	Location
IC101	C-2
IC102	C-7
IC103	B-2
Q101	A-8

Note:

- ⊶ : Parts extracted from the component side.
- ○ : Through hole.
- ▬ : Pattern from the side which enable seeing. (The other layer's patterns are not indicated.)

4-3. SCHEMATIC DIAGRAM – BD SECTION –

- See page 23 for IC Block Diagrams.
- See page 25 for IC Pin Functions. (IC101)

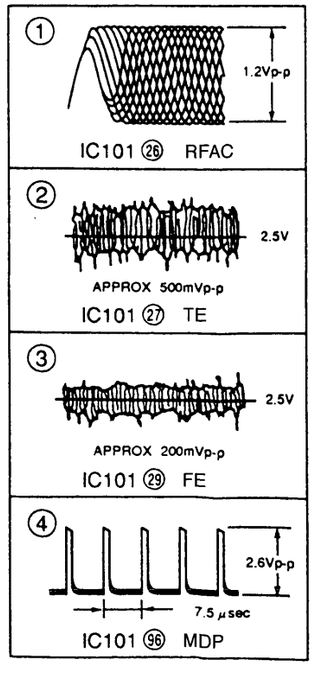


Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- B+ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  No mark: STOP
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

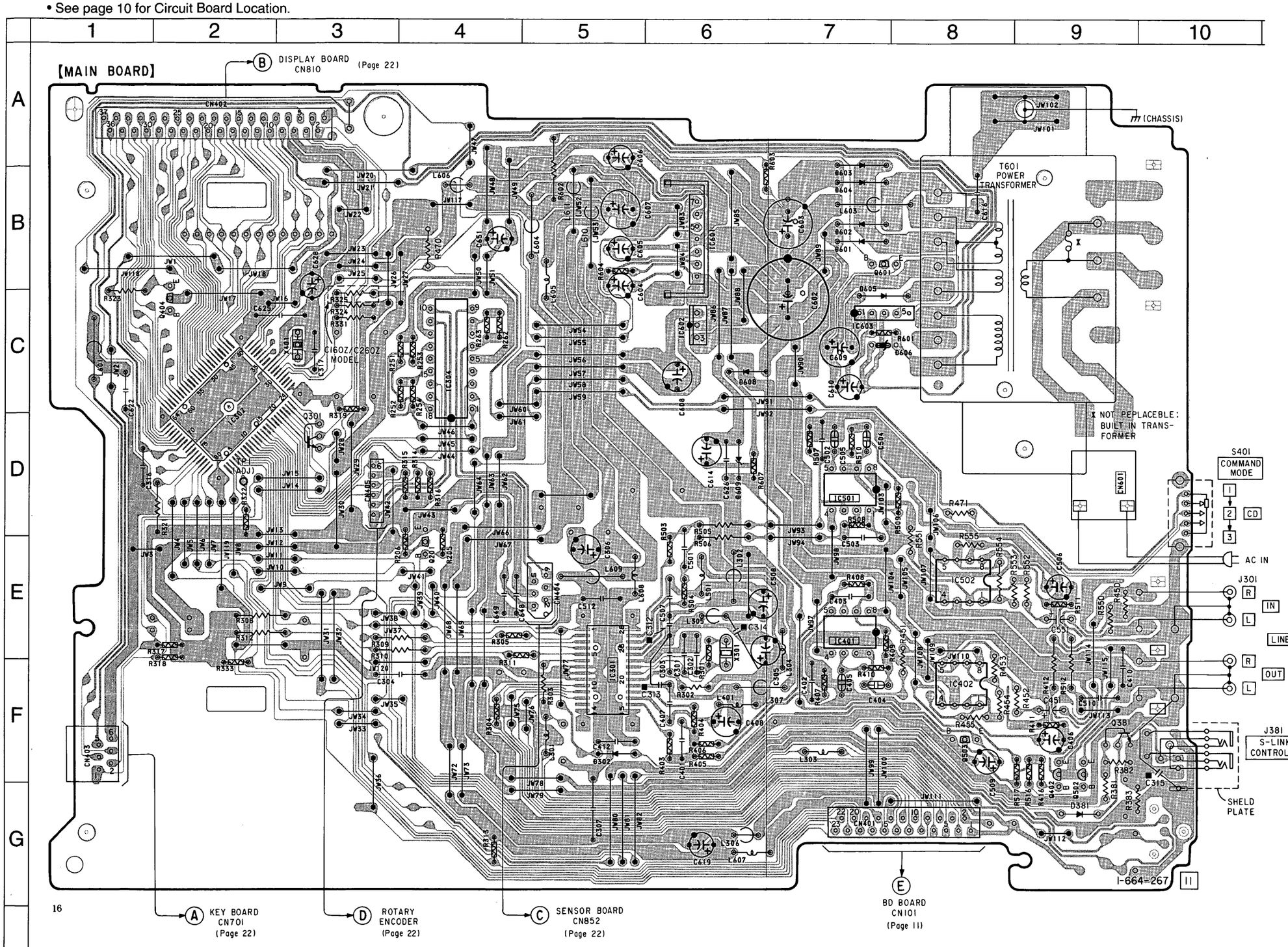
Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

- **Waveforms**



4-4. PRINTED WIRING BOARD – MAIN SECTION –

• See page 10 for Circuit Board Location.



• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D302	F-5	IC402	F-8
D381	G-9	IC501	D-7
D601	B-7	IC502	E-8
D602	B-7	IC601	B-6
D603	A-7	IC602	C-6
D604	B-7	IC603	C-7
D605	B-7	Q201	E-4
D606	C-8	Q301	D-3
D608	C-6	Q381	F-9
D609	D-6	Q402	F-9
		Q404	C-2
IC301	F-5	Q502	F-9
IC302	D-2	Q503	F-8
IC304	C-4	Q601	B-7
IC401	E-7		

• **Waveforms**

⑤ 5.2Vp-p, 10MHz
IC302 ㉛ EXTAL

⑥ 5.5Vp-p, 22.7µ sec
IC301 ⑫ LRCK

⑦ 5Vp-p, 470n sec
IC301 ⑩ BCK

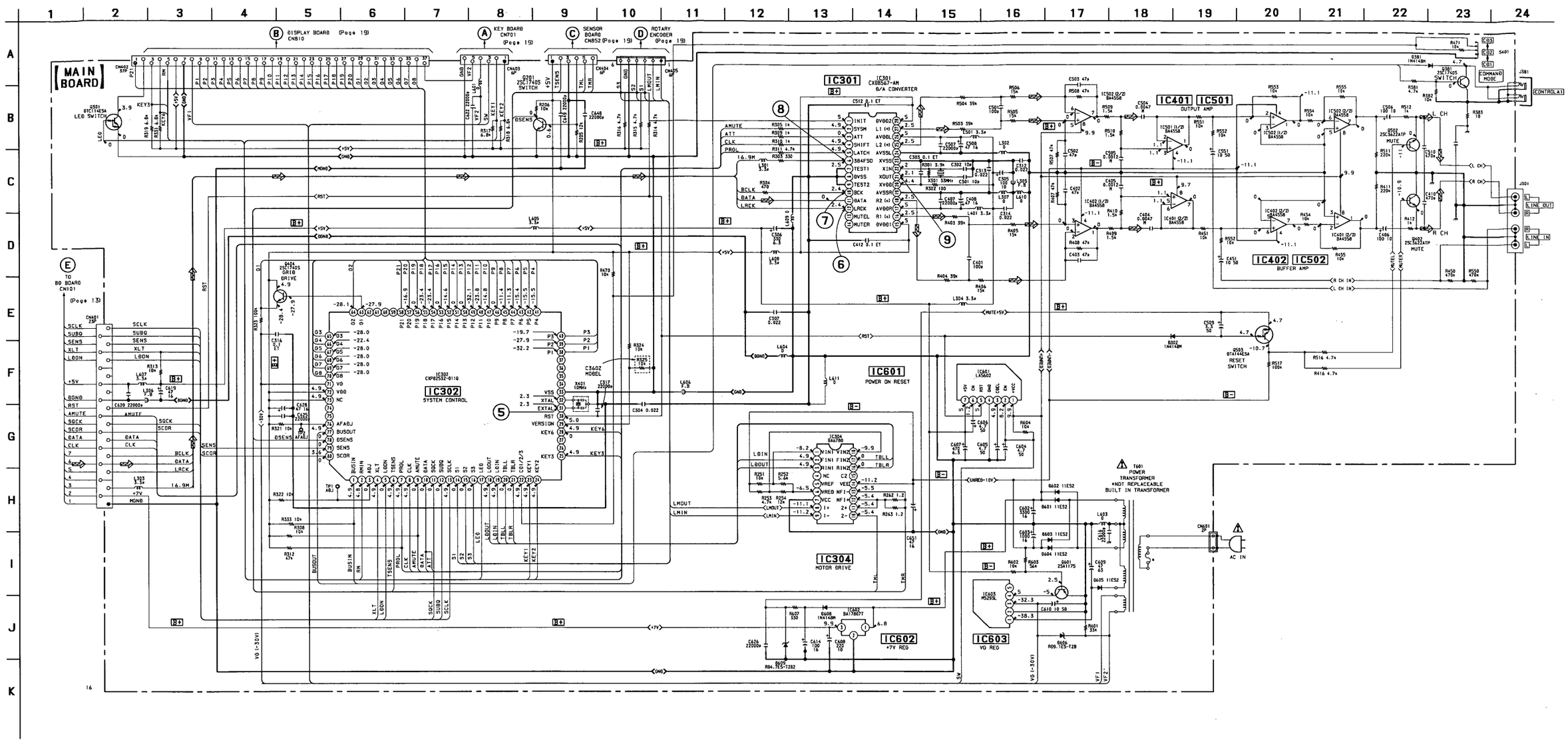
⑧ 4.7Vp-p, 16.9MHz
IC301 ⑥ 384 FSO

⑨ 2.3Vp-p, 33.8688MHz
IC301 ㉑ X OUT

Note:
- ⟜ : Parts extracted from the component side.
- △ : Internal component.
- ▬ : Pattern from the side which enable seeing.

4-5. SCHEMATIC DIAGRAM – MAIN SECTION –

- See page 23 for IC Block Diagrams.
- See page 28 for IC Pin Function. (IC302)



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ :Internal component.
- ▭ :Panel designation.
- B+ : B+ Line.
- B– : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.

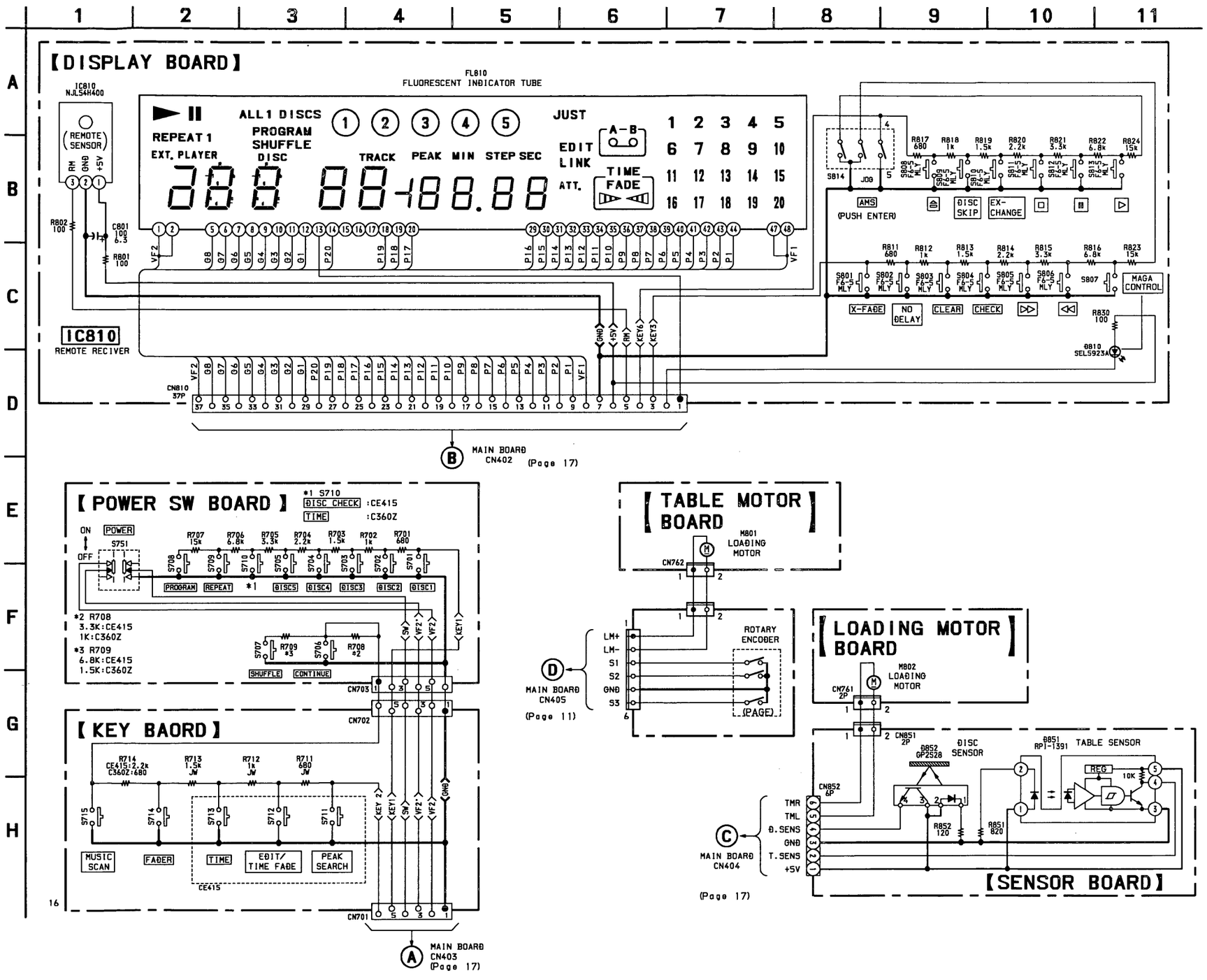
No mark: STOP

- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

- Signal path.
  ⇨ : CD

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

4-6. SCHEMATIC DIAGRAM – DISPLAY SECTION –



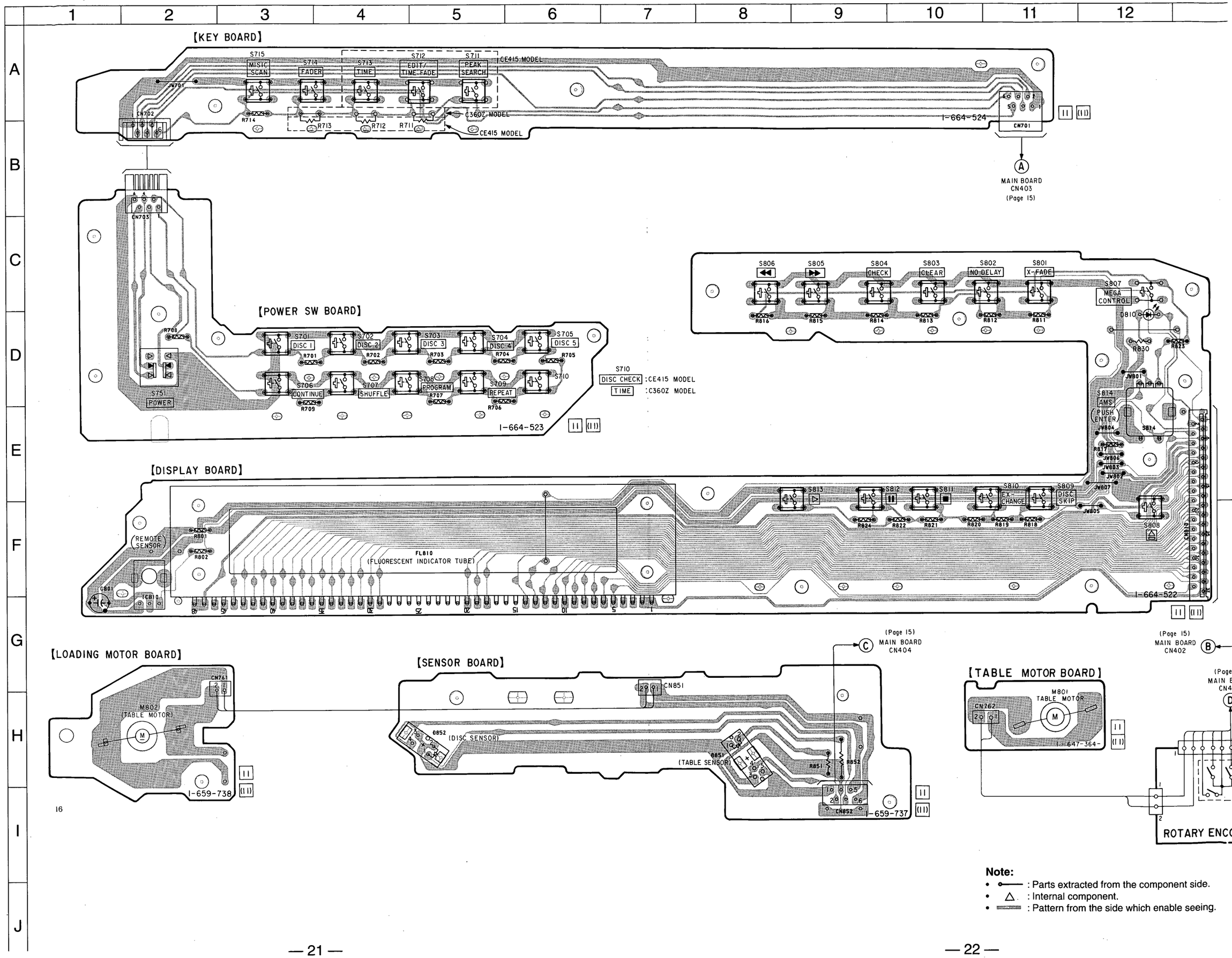
Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ :Internal component.
- ▭ :Panel designation.
- B+ : B+ Line.
- B– : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  No mark: STOP
- Voltages are taken with a VOM (Input impedance 10MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

4-7. PRINTED WIRING BOARD – DISPLAY SECTION –

• See page 10 for Circuit Board Location.

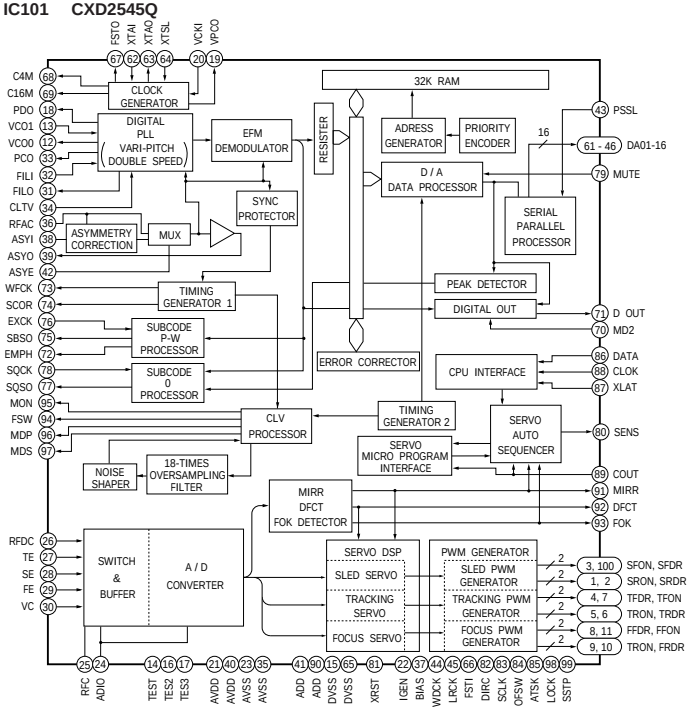


Note:

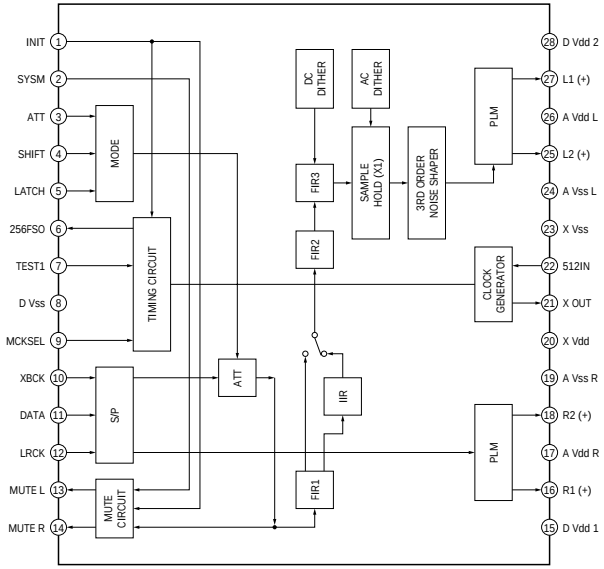
- ——○—— : Parts extracted from the component side.
- △ : Internal component.
- ▬▬ : Pattern from the side which enable seeing.

4-8. IC BLOCK DIAGRAMS

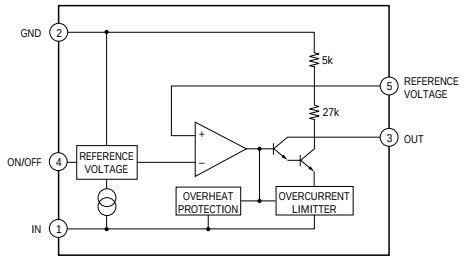
IC101 CXD2545Q



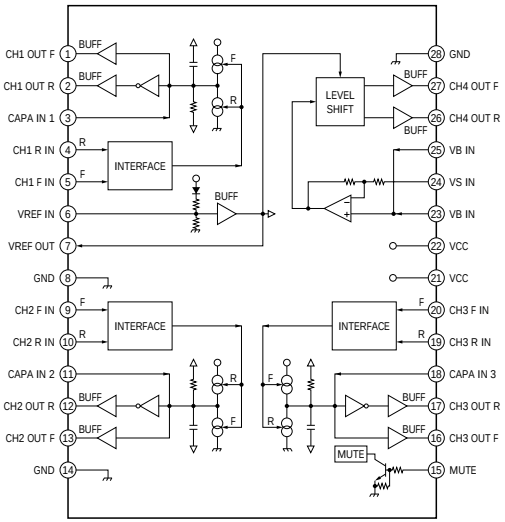
IC301 CXD8567AM



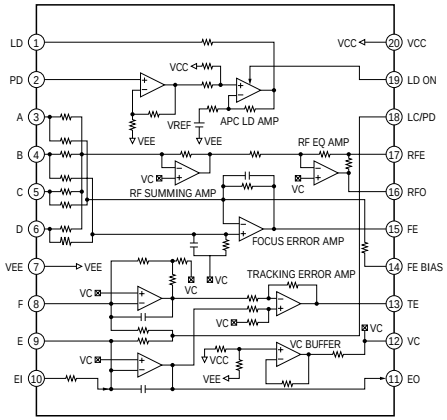
IC603 M5293L



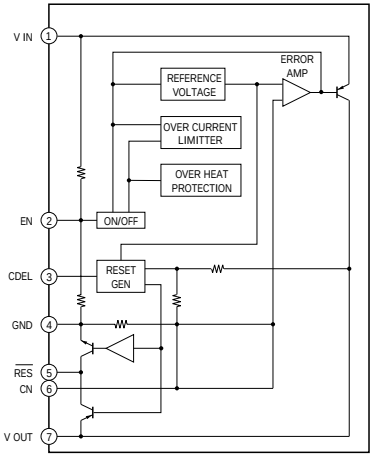
IC102 BA6392FP



IC103 CXA1821M



IC601 LA5602



4-9. IC PIN FUNCTIONS

• IC101 DIGITAL SIGNAL PROCESSOR (CXD2545Q)

Pin No.	Pin Name	I/O	Function
1	SRON	O	Sled drive output (Not used)
2	SRDR	O	Sled drive output
3	SFON	O	Sled drive output (Not used)
4	TFDR	O	Tracking drive output
5	TRON	O	Tracking drive output (Not used)
6	TRDR	O	Tracking drive output
7	TFON	O	Tracking drive output (Not used)
8	FFDR	O	Focus drive output
9	FRON	O	Focus drive output (Not used)
10	FRDR	O	Focus drive output
11	FFON	O	Focus drive output (Not used)
12	VCOO	O	VCO output for analog EFM PLL (Not used)
13	VCOI	I	VCO input for analog EFM PLL (Ground)
14	TEST	I	TEST pin connected normally to ground
15	DVss	—	Digital ground
16	TES2	I	TEST pin connected normally to ground
17	TES3	I	TEST pin connected normally to ground
18	PDO	O	Charge-pump output for analog EFM PLL (Not used)
19	VPCO	O	Charge-pump output for variable pitch PLL (Not used)
20	VCKI	I	Clock input from variable pitch external VCO (Ground)
21	AVD2	—	Analog power supply
22	IGEN	I	Power supply pin for operational amplifiers
23	AVS2	—	Analog ground
24	ADIO	I	(Not used)
25	RFC	O	(Not used)
26	RFDC	I	RF signal input
27	TE	I	Tracking error signal input
28	SE	I	Sled error signal input
29	FE	I	Focus error signal input
30	VC	I	Center voltage input pin
31	FILO	O	Filter output for master PLL
32	FILI	I	Filter input for master PLL
33	PCO	O	Charge-pump output for master PLL
34	CLTV	I	Control voltage input for master VCO
35	AVS1	—	Analog ground
36	RFAC	I	EFM signal input
37	BIAS	I	Asymmetry circuit constant current input
38	ASYI	I	Asymmetry comparate voltage input
39	ASYO	O	EFM full swing output
40	AVD1	—	Analog power supply

Pin No.	Pin Name	I/O	Function
41	DV_{DD}	—	Digital power supply
42	ASYE	I	Asymmetry circuit ON/OFF
43	PSSL	I	Audio data output mode selection input
44	WDCK	O	48-bit slot D/A interface. Word clock.
45	LRCK	O	48-bit slot D/A interface. LR clock.
46	DATA	O	DA 16 output when PSSL=1.48-bit slot serial data when PSSL=0
47	BCLK	O	DA 15 output when PSSL=1.48-bit slot data when PSSL=0
48	64DATA	O	DA 14 output when PSSL=1.64-bit slot data when PSSL=0 (Not used)
49	64BCLK	O	DA 13 output when PSSL=1.64-bit slot data when PSSL=0 (Not used)
50	64LRCK	O	DA 12 output when PSSL=1.64-bit slot data when PSSL=0 (Not used)
51	GTOP	O	DA 11 output when PSSL=1.GTOP output when PSSL=0 (Not used)
52	XUGF	O	DA 10 output when PSSL=1.XUGF output when PSSL=0 (Not used)
53	XPLCK	O	DA 09 output when PSSL=1.XPLCK output when PSSL=0
54	GFS	O	DA 08 output when PSSL=1.GFS output when PSSL=0
55	PFCK	O	DA 07 output when PSSL=1.RFCK output when PSSL=0
56	C2PO	O	DA 06 output when PSSL=1.C2PO output when PSSL=0 (Not used)
57	XRAOF	O	DA 05 output when PSSL=1.XRA0F output when PSSL=0
58	MNT3	O	DA 04 output when PSSL=1.MNT3 output when PSSL=0
59	MNT2	O	DA 03 output when PSSL=1.MNT2 output when PSSL=0
60	MNT1	O	DA 02 output when PSSL=1.MNT1 output when PSSL=0
61	MNT0	O	DA 01 output when PSSL=1.MNT0 output when PSSL=0
62	XTAI	I	X'tal oscillator circuit input
63	XTAO	O	X'tal oscillator circuit output (Not used)
64	XTSL	I	X'tal selection input pin (Ground)
65	DVss	—	Digital ground
66	FSTI	I	2/3 divider input of pins 62, 63
67	FSTO	O	2/3 divider output of pins 62, 63
68	FSOF	O	(Not used)
69	C16M	O	16.9344 MHz output (Not used)
70	MD2	I	Digital-out ON/OFF control pin (+5V)
71	DOUT	O	Digital-out output pin
72	EMPH	O	Playback disc output in emphasis mode (Not used)
73	WFCK	O	WFCK output
74	SCOR	O	Sub-code sync output
75	SBSO	O	Sub-P through Sub-W serial output (Not used)
76	EXCK	I	Clock input for SBS0 read-out (Ground)
77	SUBQ	O	Sub-Q 80-bit output
78	SQCK	O	Sub-code Q clock output
79	MUTE	I	Muting selection pin
80	SENS	O	SENS output

Pin No.	Pin Name	I/O	Function
81	XRST	I	System reset
82	DIRC	I	Used in 1-track jump mode (+5v)
83	SCLK	I	SENS serial data read-out clock
84	DFSW	I	DFCT selection pin (Ground)
85	ATSK	I	Input pin for anti-shock (Ground)
86	DATA	I	Serial data input, supplied from CPU
87	XLAT	I	Latch input, supplied from CPU
88	CLOK	I	Serial data transfer clock input, supplied from CPU
89	COUT	O	Numbers of track counted signal output (Not used)
90	DV_{DD}	—	Digital power supply
91	MIRR	O	Mirror signal output
92	DFCT	O	Defect signal output
93	FOK	O	Focus OK output
94	FSW	O	Output to select spindle motor output filter (Not used)
95	MON	O	Output to control ON/OFF of spindle motor (Not used)
96	NDP	O	Output to control spindle motor servo
97	MDS	O	Output to control spindle motor servo (Not used)
98	LOCK	O	GFS is sampled by 460 Hz. H when GFS is H (Not used)
99	SSTP	I	Input signal to detect disc inner most track
100	SFDR	O	Sled drive output

• IC302 SYSTEM CONTROL (CXP82532-011Q)

Pin No.	Pin Name	I/O	Function
1	BUS IN	I	Control A input
2	RM IN	I	Remote control signal input
3	ADJ	I	ADJ mode setting pin
4	XLT	O	CXD2545 latch output
5	LD ON	O	Laser diode ON output H : ON
6	TSENS	I	Table position sensor input
7	PRGL	O	CXD8567 latch output
8	CLK	O	CXD2545/CXD8567 serial clock output
9	AMUTE	O	Mute output pin H : ON
10	DATA	O	CXD2545/CXD8567 serial data output
11	SQCK	O	Subcode Q read clock
12	SUBQ	I	Subcode Q read data input
13	SCLK	O	CXD2545 data read serial clock output
14	S1	I	CDM27 table rotary encoder input 1
15	S2	I	CDM27 table rotary encoder input 2
16	S3	I	CDM27 table rotary encoder input 3
17	LED	O	MEGA CONTROL button LED output
18	LDOUT	O	Loading-out output
19	LDIN	O	Loading-in output
20	TBLL	O	Rotary table rotation counter-clockwise rotation output
21	TBLR	O	Rotary table rotation clockwise rotation output
22	CD1/2/3	I	Command mode switch input
23	KEY1	I	A/D input 1 for key input
24	KEY2	I	A/D input 2 for key input
25	KEY3	I	A/D input 3 for key input
26	KEY4	O	Not used. (Open)
27	KEY5	O	Not used. (Open)
28	KEY6	I	A/D input 6 for key input
29	VERSION	I	Version setting input pin
30	XRST	I	Reset input L : Reset
31	EXTAL	—	Oscillator connection pin
32	XTAL	—	Oscillator connection pin
33	Vss	—	Ground
34 to 37	NC	O	Not used. (Open)
38	P1	O	FL display tube segment output 1
39	P2	O	FL display tube segment output 2
40	P3	O	FL display tube segment output 3

Pin No.	Pin Name	I/O	Function
41	P4	O	FL display tube segment output 4
42	P5	O	FL display tube segment output 5
43	P6	O	FL display tube segment output 6
44	P7	O	FL display tube segment output 7
45	P8	O	FL display tube segment output 8
46	P9	O	FL display tube segment output 9
47	P10	O	FL display tube segment output 10
48	P11	O	FL display tube segment output 11
49	P12	O	FL display tube segment output 12
50	P13	O	FL display tube segment output 13
51	P14	O	FL display tube segment output 14
52	P15	O	FL display tube segment output 15
53	P16	O	FL display tube segment output 16
54	P17	O	FL display tube segment output 17
55	P18	O	FL display tube segment output 18
56	P19	O	FL display tube segment output 19
57	P20	O	FL display tube segment output 20
58	P21	O	FL display tube segment output 21
59 to 62	NC	O	Not used. (Open)
63	G1	O	FL display tube grid output 1
64	G2	O	FL display tube grid output 2
65	G3	O	FL display tube grid output 3
66	G4	O	FL display tube grid output 4
67	G5	O	FL display tube grid output 5
68	G6	O	FL display tube grid output 6
69	G7	O	FL display tube grid output 7
70	G8	O	FL display tube grid output 8
71	VG	—	FL display tube filament voltage (–30 V)
72	VDD	—	+5V
73	NC	—	+5V
74	NC	O	Not used. (Open)
75	NC	O	Not used. (Open)
76	AFADJ	I	AFADJ mode setting pin
77	BUS OUT	O	Control A output
78	DSENS	I	Disc sensor input
79	SENS	I	CXD2545 internal state monitor input
80	SCOR	I	Subcode sync. input

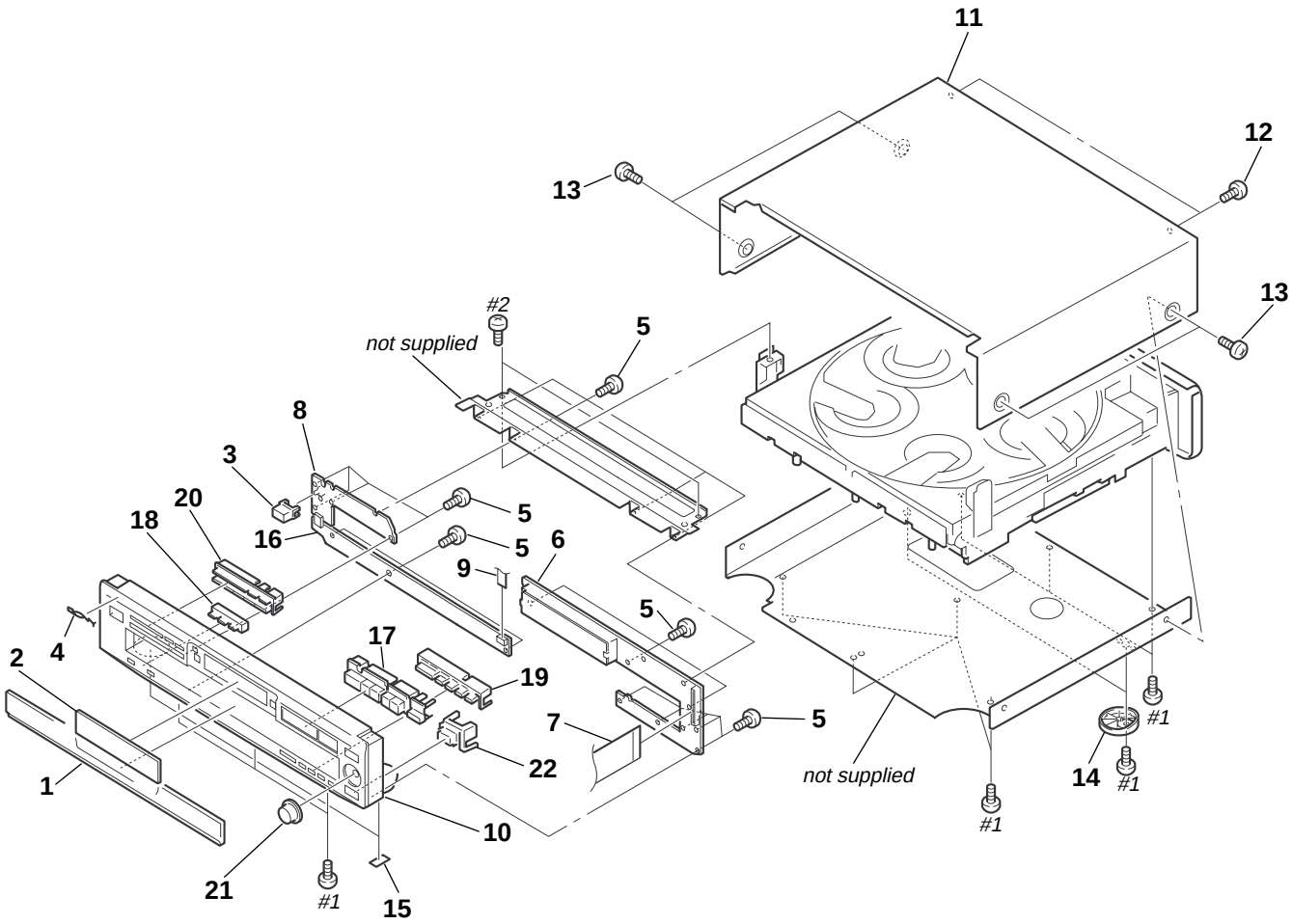
SECTION 5
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (#mark) list is given in the last of this parts list.

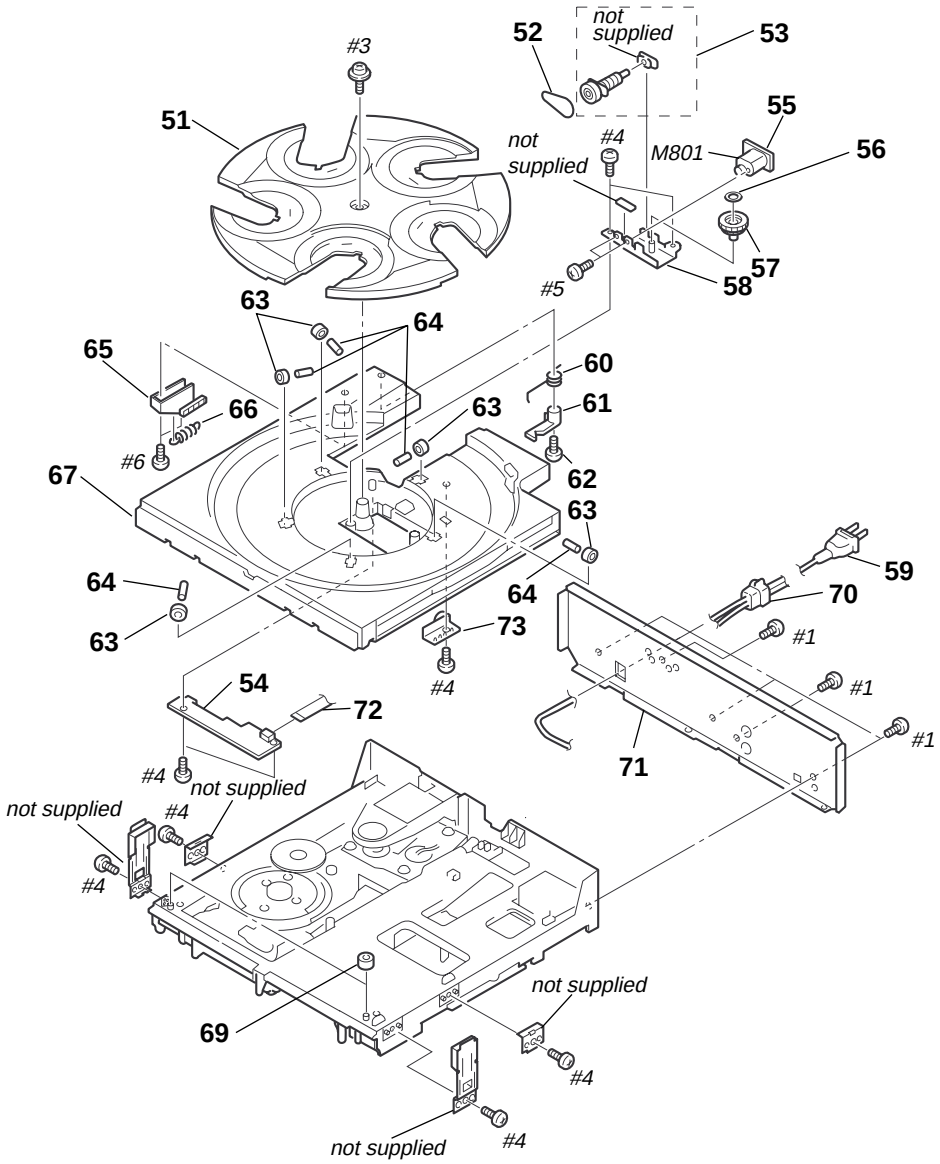
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

5-1. FRONT PANEL AND CASE SECTION



Ref. No.	Part No.	Description	Remarks
1	4-987-780-11	PANEL, LOADING	
2	4-987-779-11	WINDOW (FL)	
3	4-977-589-01	BUTTON (POWER)	
4	3-008-600-01	EMBLEM (5-AR), SONY	
5	4-951-620-01	SCREW (2.6X8), +BVTP	
* 6	1-664-522-11	DISPLAY BOARD	
7	1-777-839-11	WIRE (FLAT TYPE) (37 CORE)	
* 8	1-664-523-11	POWER SW BOARD	
9	1-777-838-11	WIRE (FLAT TYPE) (6 CORE)	
10	4-987-773-31	PANEL, FRONT (CE415)	
10	4-987-773-41	PANEL, FRONT (C360Z)	
* 11	4-978-492-11	CASE	
12	3-703-685-21	SCREW (+BV 3X8)	
13	3-704-366-01	SCREW (CASE) (M3X8)	
14	X-4946-618-1	FOOT ASSY	
* 15	4-978-398-21	CUSHION	
* 16	1-664-524-11	KEY BOARD	
17	4-987-775-01	BUTTON (PLAY)	
18	4-987-776-01	BUTTON (FUNC)	
19	4-987-777-01	BUTTON (FF)	
20	4-987-774-01	BUTTON (MODE)	
21	4-987-994-01	KNOB (AMS)	
22	4-987-778-01	BUTTON (MEGA-CONTROL)	

5-2. BACK PANEL AND DISC TABLE SECTION

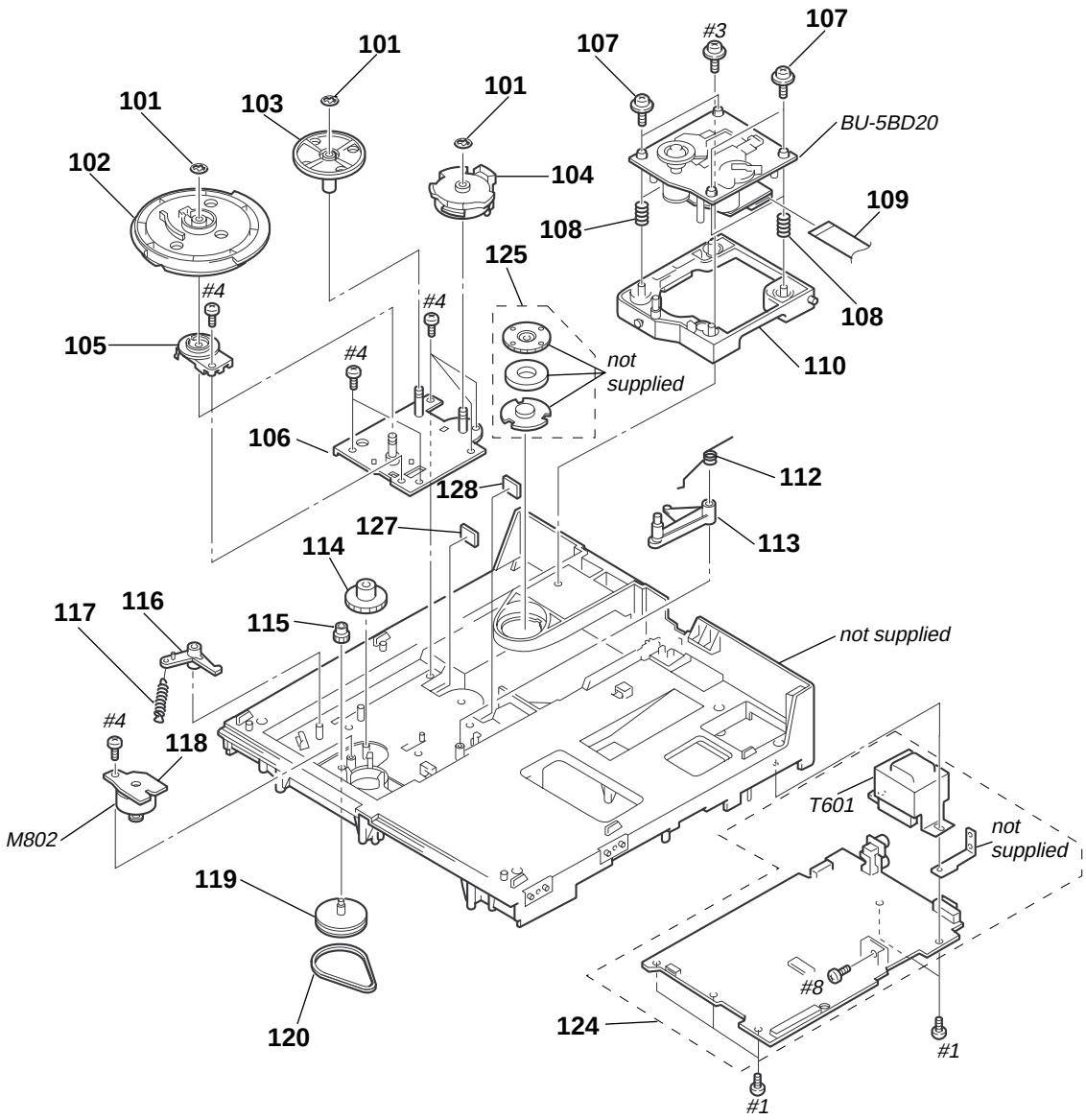


Ref. No.	Part No.	Description	Remarks
51	4-957-299-11	TABLE (B), DISC	
52	4-957-304-01	BELT (RM)	
53	X-4943-479-1	GEAR (ROTARY A) ASSY	
* 54	1-659-737-11	SENSOR BOARD	
* 55	1-647-364-11	TABLE MOTOR BOARD	
56	3-325-697-01	WASHER	
57	4-957-284-01	GEAR (ROTARY B)	
58	X-4943-477-1	BRACKET (RM) ASSY	
⚠59	1-590-926-11	CORD, POWER	
60	4-957-293-01	SPRING (RACK RELEASE)	
61	4-957-291-11	LEVER (RACK RELEASE)	
62	4-957-868-01	SCREW (+PTPWH 2.6X20)	
63	X-4924-457-1	ROLLER ASSY	

Ref. No.	Part No.	Description	Remarks
64	4-934-376-01	SHAFT (ROLLER)	
65	4-957-292-11	SLIDER (RACK)	
66	4-957-294-01	SPRING (D.T), TENSION	
67	4-957-298-01	TABLE (A), DISC	
* 69	4-951-619-01	CUSHION (A)	
* 70	3-703-244-00	BUSHING (2104), CORD	
* 71	4-987-784-01	PANEL, BACK (CE415:US)	
* 71	4-987-784-11	PANEL, BACK (CE415:Canadian)	
* 71	4-987-784-21	PANEL, BACK (C360Z)	
72	1-751-052-11	WIRE (FLAT TYPE) (6 CORE)	
73	X-4943-480-1	BRACKET (ROLLER D) ASSY	
M801	A-4660-525-A	MOTOR ASSY, ROTARY(TABLE)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

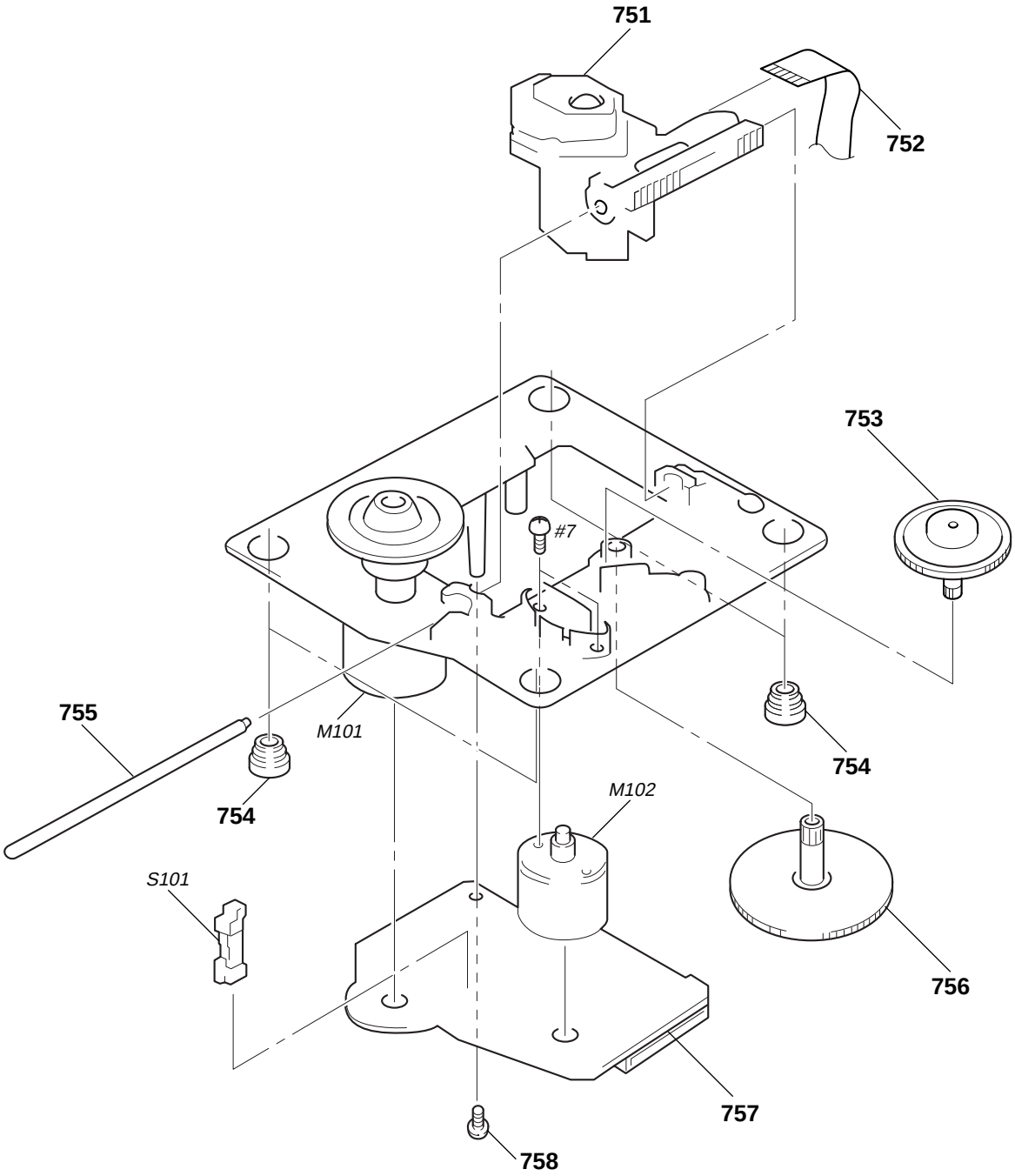
5-3. CHASSIS SECTION



Ref. No.	Part No.	Description	Remarks
101	4-957-283-01	WASHER (5), STOPPER	
102	4-957-288-01	GEAR (MAIN)	
103	4-957-287-01	GEAR (REV)	
104	4-957-286-01	GEAR (U/D)	
105	1-466-996-11	ENCODER, ROTARY	
106	X-4946-195-1	BRACKET (GEAR) ASSY	
107	4-933-134-01	SCREW (+PTPWH M2.6X6)	
108	4-948-503-01	SPRING (BU), COMPRESSION	
109	1-765-443-11	WIRE (FLAT TYPE) (23 CORE)	
110	4-957-289-12	HOLDER (BU)	
112	4-957-281-01	SPRING (LOCK LEVER)	
113	4-957-279-11	LEVER, LOCK	
114	4-957-303-01	GEAR (LOADING C)	
115	4-934-375-01	GEAR (LOADING B)	
116	4-957-285-01	LEVER, SET	
117	4-962-087-01	SPRING (S), TENSION	
* 118	1-659-738-11	LOADING MOTOR BOARD	
119	X-4941-529-1	PULLEY ASSY	
120	4-944-490-01	BELT (TIMING)	
* 124	A-4699-512-A	MAIN BOARD, COMPLETE (CE415)	
* 124	A-4699-572-A	MAIN BOARD, COMPLETE (C360Z)	
* 125	1-452-879-31	MAGNET	
* 127	4-981-731-01	CUSHION (U/D)	
* 128	4-981-731-11	CUSHION (U/D)	
M802	A-4660-914-A	MOTOR ASSY, LOADING	
⚠T601	1-429-956-11	TRANSFORMER, POWER	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

5-4. BASE UNIT SECTION (BU-5BD20)



Ref. No.	Part No.	Description	Remarks
⚠751	8-848-379-31	OPTICAL PICK-UP KSS-213B/S-N	
752	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
753	4-917-567-21	GEAR (M)	
754	4-951-940-01	INSULATOR (BU)	
755	4-917-565-01	SHAFT, SLED	
756	4-917-564-01	GEAR (P), FLATNESS	

Ref. No.	Part No.	Description	Remarks
* 757	A-4673-509-A	BD BOARD, COMPLETE	
758	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 6
ELECTRICAL PARTS LIST

BD **DISPLAY**

NOTE:

When indicating parts by reference number, please include the board naame.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
*	A-4673-509-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-346-11	CERAMIC CHIP	1uF		16V
C108	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C109	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C113	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-126-607-11	ELECT CHIP	47uF	20%	4V
C117	1-126-209-11	ELECT	100uF	20%	4V
C118	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C119	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C123	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C124	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C140	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C141	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C151	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C156	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C157	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-770-072-11	CONNECTOR,(LIF(NON-ZIF))FFC23P			
CN102	1-770-014-11	CONNECTOR, FFC/FPC 16P			
		< IC >			
IC101	8-752-369-78	IC CXD2545Q			
IC102	8-759-176-09	IC BA6392FP			
IC103	8-752-072-45	IC CXA1821M			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R110	1-216-025-00	METAL GLAZE	100	5%	1/10W
R112	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R125	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R126	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R127	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R131	1-216-037-00	METAL CHIP	330	5%	1/10W
R135	1-216-295-00	CONDUCTOR, CHIP (2012)			
R136	1-216-295-00	CONDUCTOR, CHIP (2012)			
R137	1-216-295-00	CONDUCTOR, CHIP (2012)			
R138	1-216-295-00	CONDUCTOR, CHIP (2012)			
R141	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R142	1-216-081-00	METAL CHIP	22K	5%	1/10W
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W
R146	1-216-073-00	METAL CHIP	10K	5%	1/10W
R147	1-216-081-00	METAL CHIP	22K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-003-11	METAL GLAZE	12	5%	1/10W
R158	1-216-111-00	METAL GLAZE	390K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W
R160	1-216-295-00	CONDUCTOR, CHIP (2012)			
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF(LIMIT)			
**********					
*	1-664-522-12	DISPLAY BOARD			
		**********			
		< CAPACITOR >			
C801	1-126-933-11	ELECT	100uF	20%	10V

Ref. No.	Part No.	Description				Remarks
		< CONNECTOR >				
* CN810	1-764-700-11	SOCKET, CONNECTOR 37P				
		< DIODE >				
D810	8-719-057-97	DIODE SEL5923A-TP15				
		< FLUORESCENT DISPLAY >				
FL810	1-517-616-11	TUBE, FLUORESCENT INDICATOR				
		< IC >				
IC810	8-759-459-84	IC NJL56H400				
		< RESISTOR >				
R801	1-247-807-31	CARBON	100	5%	1/4W	
R802	1-247-807-31	CARBON	100	5%	1/4W	
R811	1-249-415-11	CARBON	680	5%	1/4W	F
R812	1-249-417-11	CARBON	1K	5%	1/4W	F
R813	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R814	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R815	1-247-843-11	CARBON	3.3K	5%	1/4W	
R816	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R817	1-249-415-11	CARBON	680	5%	1/4W	F
R818	1-249-417-11	CARBON	1K	5%	1/4W	F
R819	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R820	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R821	1-247-843-11	CARBON	3.3K	5%	1/4W	
R822	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R823	1-249-431-11	CARBON	15K	5%	1/4W	
R824	1-249-431-11	CARBON	15K	5%	1/4W	
R830	1-247-807-31	CARBON	100	5%	1/4W	
		< SWITCH >				
S801	1-554-303-21	SWITCH, TACTILE(X-FADE)				
S802	1-554-303-21	SWITCH, TACTILE(NO DELAY)				
S803	1-554-303-21	SWITCH, TACTILE(CLEAR)				
S804	1-554-303-21	SWITCH, TACTILE(CHECK)				
S805	1-554-303-21	SWITCH, TACTILE(▶▶)				
S806	1-554-303-21	SWITCH, TACTILE(◀◀)				
S807	1-554-303-21	SWITCH, TACTILE(MEGA CONTROL)				
S808	1-554-303-21	SWITCH, TACTILE(OPEN/CLOSE)				
S809	1-554-303-21	SWITCH, TACTILE(DISC SKIP)				
S810	1-554-303-21	SWITCH, TACTILE(EXCHANGE)				
S811	1-554-303-21	SWITCH, TACTILE(■)				
S812	1-554-303-21	SWITCH, TACTILE(▮▮)				
S813	1-554-303-21	SWITCH, TACTILE(▷)				
S814	1-473-957-11	ENCODER, ROTARY(AMS)				
**********						
*	1-664-524-11	KEY BOARD **********				
		< CONNECTOR >				
CN701	1-568-849-11	SOCKET, CONNECTOR 6P				
CN702	1-750-195-11	CONNECTOR, BOARD TO BOARD 6P				

Ref. No.	Part No.	Description				Remarks
		< RESISTOR >				
R711	1-249-415-11	CARBON	680	5%	1/4W	F
R712	1-249-417-11	CARBON	1K	5%	1/4W	F
R713	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R711	1-249-415-11	CARBON	680	5%	1/4W	F
R712	1-249-417-11	CARBON	1K	5%	1/4W	F
R713	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R714	1-249-415-11	CARBON	680	5%	1/4W	F
R714	1-249-421-11	CARBON	2.2K	5%	1/4W	F
		< SWITCH >				
S711	1-554-303-21	SWITCH, TACTILE(PEAK SEARCH) (CE415)				
S712	1-554-303-21	SWITCH, TACTILE(EDIT/TIME FADE)(CE415)				
S713	1-554-303-21	SWITCH, TACTILE(TIME) (CE415)				
S714	1-554-303-21	SWITCH, TACTILE(FADER)				
S715	1-554-303-21	SWITCH, TACTILE(MUSIC SCAN)				
**********						
*	1-659-738-11	LOADING MOTOR BOARD **********				
		< MOTOR >				
M802	A-4660-914-A	MOTOR ASSY (LOADING)				
**********						
*	A-4699-512-A	MAIN BOARD, COMPLETE(CE415) **********				
*	A-4699-572-A	MAIN BOARD, COMPLETE(C360Z) **********				
	7-685-871-01	SCREW +BVTT 3X6 (S)				
		< CAPACITOR >				
C301	1-162-199-31	CERAMIC	10PF	5%	50V	
C302	1-162-199-31	CERAMIC	10PF	5%	50V	
C303	1-164-159-11	CERAMIC	0.1uF		50V	
C304	1-161-494-00	CERAMIC	0.022uF		25V	
C305	1-126-933-11	ELECT	100uF	20%	10V	
C306	1-124-442-00	ELECT	330uF	20%	6.3V	
C307	1-161-494-00	CERAMIC	0.022uF		25V	
C311	1-161-494-00	CERAMIC	0.022uF		25V	
C312	1-161-494-00	CERAMIC	0.022uF		25V	
C313	1-161-494-00	CERAMIC	0.022uF		25V	
C316	1-164-159-11	CERAMIC	0.1uF		50V	
C317	1-161-494-00	CERAMIC	0.022uF		25V	
C401	1-162-282-31	CERAMIC	100PF	10%	50V	
C402	1-162-215-31	CERAMIC	47PF	5%	50V	
C403	1-162-215-31	CERAMIC	47PF	5%	50V	
C404	1-130-479-00	MYLAR	0.0047uF	5%	50V	
C405	1-130-472-00	MYLAR	0.0012uF	5%	50V	
C406	1-126-933-11	ELECT	100uF	20%	10V	
C407	1-161-494-00	CERAMIC	0.022uF		25V	
C408	1-126-967-11	ELECT	47uF	20%	16V	
C410	1-162-290-31	CERAMIC	470PF	10%	50V	
C412	1-164-159-11	CERAMIC	0.1uF		50V	
C451	1-126-059-11	ELECT	10uF	20%	50V	
C501	1-162-282-31	CERAMIC	100PF	10%	50V	
C502	1-162-215-31	CERAMIC	47PF	5%	50V	

MAIN

Ref. No.	Part No.	Description			Remarks
C503	1-162-215-31	CERAMIC	47PF	5%	50V
C504	1-130-479-00	MYLAR	0.0047uF	5%	50V
C505	1-130-472-00	MYLAR	0.0012uF	5%	50V
C506	1-126-933-11	ELECT	100uF	20%	10V
C507	1-161-494-00	CERAMIC	0.022uF		25V
C508	1-126-967-11	ELECT	47uF	20%	16V
C509	1-126-962-11	ELECT	3.3uF	20%	50V
C510	1-162-290-31	CERAMIC	470PF	10%	50V
C512	1-164-159-11	CERAMIC	0.1uF		50V
C551	1-126-059-11	ELECT	10uF	20%	50V
C602	1-126-944-11	ELECT	3300uF	20%	16V
C603	1-126-942-61	ELECT	1000uF	20%	16V
C604	1-126-963-11	ELECT	4.7uF	20%	50V
C605	1-126-963-11	ELECT	4.7uF	20%	50V
C606	1-126-963-11	ELECT	4.7uF	20%	50V
C607	1-126-935-11	ELECT	470uF	20%	6.3V
C608	1-104-101-11	ELECT	220uF	20%	10V
C609	1-124-918-11	ELECT	47uF	20%	63V
C610	1-126-059-11	ELECT	10uF	20%	50V
C614	1-126-052-11	ELECT	100uF	20%	16V
C616	1-161-494-00	CERAMIC	0.022uF		25V
C619	1-126-967-11	ELECT	47uF	20%	16V
C622	1-161-494-00	CERAMIC	0.022uF		25V
C624	1-161-494-00	CERAMIC	0.022uF		25V
C625	1-161-494-00	CERAMIC	0.022uF		25V
C626	1-161-494-00	CERAMIC	0.022uF		25V
C628	1-126-967-11	ELECT	47uF	20%	16V
C648	1-161-494-00	CERAMIC	0.022uF		25V
C649	1-161-494-00	CERAMIC	0.022uF		25V
C651	1-126-967-11	ELECT	47uF	20%	16V
		< CONNECTOR >			
CN401	1-750-640-11	CONNECTOR, FFC/FPC 23P			
* CN402	1-764-701-11	SOCKET, CONNECTOR 37P			
CN403	1-568-849-11	SOCKET, CONNECTOR 6P			
* CN404	1-568-825-11	SOCKET, CONNECTOR 6P			
* CN601	1-573-047-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D302	8-719-987-63	DIODE 1N4148M			
D381	8-719-987-63	DIODE 1N4148M			
D601	8-719-200-82	DIODE 11ES2			
D602	8-719-200-82	DIODE 11ES2			
D603	8-719-200-82	DIODE 11ES2			
D604	8-719-200-82	DIODE 11ES2			
D605	8-719-200-82	DIODE 11ES2			
D606	8-719-929-15	DIODE HZS9.1NB2			
D608	8-719-987-63	DIODE 1N4148M			
D609	8-719-010-34	DIODE UZ-4.7BSC			
		< IC >			
IC301	8-759-362-47	IC CXD8567AM			
IC302	8-752-881-74	IC CXP82532-011Q			
IC304	8-759-356-03	IC BA6780			
IC401	8-759-145-58	IC uPC4558C			
IC402	8-759-145-58	IC uPC4558C			
IC501	8-759-145-58	IC uPC4558C			
IC502	8-759-145-58	IC uPC4558C			
IC601	8-759-061-65	IC LA5602			
IC602	8-749-011-78	IC BA17807T			
IC603	8-759-633-42	IC M5293L			

Ref. No.	Part No.	Description				Remarks
		< JACK >				
J301	1-770-720-11	JACK, PIN 4P (LINE IN/OUT)				
J381	1-774-726-11	JACK (S-LINK(CONTROL A1))				
		< COIL >				
L301	1-410-503-11	INDUCTOR	3.3uH			
L303	1-410-503-11	INDUCTOR	3.3uH			
L304	1-410-503-11	INDUCTOR	3.3uH			
L305	1-410-397-21	FERRITE BEAD INDUCTOR				
L306	1-410-397-21	FERRITE BEAD INDUCTOR				
L401	1-410-503-11	INDUCTOR	3.3uH			
L501	1-410-503-11	INDUCTOR	3.3uH			
L601	1-412-473-21	INDUCTOR	0uH			
L603	1-412-473-21	INDUCTOR	0uH			
L604	1-412-473-21	INDUCTOR	0uH			
L605	1-410-503-11	INDUCTOR	3.3uH			
L606	1-410-397-21	FERRITE BEAD INDUCTOR				
L607	1-410-503-11	INDUCTOR	3.3uH			
L608	1-410-507-11	INDUCTOR	6.8uH			
L609	1-412-473-21	INDUCTOR	0uH			
L610	1-412-473-21	INDUCTOR	0uH			
L611	1-412-473-21	INDUCTOR	0uH			
		< TRANSISTOR >				
Q201	8-729-230-45	TRANSISTOR	2SC2785-HFE			
Q301	8-729-029-67	TRANSISTOR	DTC114ESA-TP			
Q381	8-729-230-45	TRANSISTOR	2SC2785-HFE			
Q402	8-729-141-26	TRANSISTOR	2SC3622A-LK			
Q404	8-729-230-45	TRANSISTOR	2SC2785-HFE			
Q502	8-729-141-26	TRANSISTOR	2SC3622A-LK			
Q503	8-729-029-56	TRANSISTOR	DTA144ESA			
Q601	8-729-119-76	TRANSISTOR	2SA1175-HFE			
		< RESISTOR >				
R205	1-249-430-11	CARBON	12K	5%	1/4W	
R206	1-249-429-11	CARBON	10K	5%	1/4W	
R251	1-249-429-11	CARBON	10K	5%	1/4W	
R252	1-249-426-11	CARBON	5.6K	5%	1/4W	
R253	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R254	1-249-430-11	CARBON	12K	5%	1/4W	
R262	1-249-382-11	CARBON	1.2	5%	1/6W	F
R263	1-249-382-11	CARBON	1.2	5%	1/6W	F
R301	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R302	1-247-807-31	CARBON	100	5%	1/4W	
R303	1-249-411-11	CARBON	330	5%	1/4W	
R304	1-249-413-11	CARBON	470	5%	1/4W	F
R308	1-249-429-11	CARBON	10K	5%	1/4W	
R309	1-249-417-11	CARBON	1K	5%	1/4W	F
R310	1-249-417-11	CARBON	1K	5%	1/4W	F
R311	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R312	1-249-437-11	CARBON	47K	5%	1/4W	
R313	1-249-429-11	CARBON	10K	5%	1/4W	
R314	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R315	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R316	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R317	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R318	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R319	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R321	1-249-429-11	CARBON	10K	5%	1/4W	

Ref. No.	Part No.	Description			Remarks
R322	1-249-429-11	CARBON	10K	5%	1/4W
R323	1-249-441-11	CARBON	100K	5%	1/4W
R324	1-249-429-11	CARBON	10K	5%	1/4W
R325	1-249-429-11	CARBON	10K	5%	1/4W (C360Z)
R331	1-249-427-11	CARBON	6.8K	5%	1/4W F
R333	1-249-429-11	CARBON	10K	5%	1/4W
R381	1-249-425-11	CARBON	4.7K	5%	1/4W F
R382	1-249-429-11	CARBON	10K	5%	1/4W
R383	1-249-393-11	CARBON	10	5%	1/4W F
R403	1-249-436-11	CARBON	39K	5%	1/4W
R404	1-249-436-11	CARBON	39K	5%	1/4W
R405	1-249-431-11	CARBON	15K	5%	1/4W
R406	1-249-431-11	CARBON	15K	5%	1/4W
R407	1-215-461-00	METAL	47K	1%	1/4W
R408	1-215-461-00	METAL	47K	1%	1/4W
R409	1-249-419-11	CARBON	1.5K	5%	1/4W F
R410	1-249-419-11	CARBON	1.5K	5%	1/4W F
R411	1-247-887-00	CARBON	220K	5%	1/4W
R412	1-249-417-11	CARBON	1K	5%	1/4W F
R416	1-249-425-11	CARBON	4.7K	5%	1/4W F
R450	1-247-895-00	CARBON	470K	5%	1/4W
R451	1-249-429-11	CARBON	10K	5%	1/4W
R452	1-249-429-11	CARBON	10K	5%	1/4W
R453	1-249-429-11	CARBON	10K	5%	1/4W
R454	1-249-429-11	CARBON	10K	5%	1/4W
R455	1-249-429-11	CARBON	10K	5%	1/4W
R470	1-249-429-11	CARBON	10K	5%	1/4W
R471	1-249-429-11	CARBON	10K	5%	1/4W
R503	1-249-436-11	CARBON	39K	5%	1/4W
R504	1-249-436-11	CARBON	39K	5%	1/4W
R505	1-249-431-11	CARBON	15K	5%	1/4W
R506	1-249-431-11	CARBON	15K	5%	1/4W
R507	1-215-461-00	METAL	47K	1%	1/4W
R508	1-215-461-00	METAL	47K	1%	1/4W
R509	1-249-419-11	CARBON	1.5K	5%	1/4W F
R510	1-249-419-11	CARBON	1.5K	5%	1/4W F
R511	1-247-887-00	CARBON	220K	5%	1/4W
R512	1-249-417-11	CARBON	1K	5%	1/4W F
R516	1-249-425-11	CARBON	4.7K	5%	1/4W F
R517	1-249-441-11	CARBON	100K	5%	1/4W
R550	1-247-895-00	CARBON	470K	5%	1/4W
R551	1-249-429-11	CARBON	10K	5%	1/4W
R552	1-249-429-11	CARBON	10K	5%	1/4W
R553	1-249-429-11	CARBON	10K	5%	1/4W
R554	1-249-429-11	CARBON	10K	5%	1/4W
R555	1-249-429-11	CARBON	10K	5%	1/4W
R601	1-249-435-11	CARBON	33K	5%	1/4W
R602	1-249-429-11	CARBON	10K	5%	1/4W
R603	1-249-438-11	CARBON	56K	5%	1/4W
R604	1-249-429-11	CARBON	10K	5%	1/4W
R607	1-249-411-11	CARBON	330	5%	1/4W
		< SWITCH >			
S401	1-571-308-11	SWITCH, SLIDE(COMMAND MODE)			
		< VIBRATOR >			
X301	1-579-833-21	VIBRATOR, CRYSTAL 33MHz			
X401	1-579-175-11	VIBRATOR, CERAMIC 10MHz			

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Ref. No.	Part No.	Description			Remarks
*	1-664-523-11	POWER SWITCH BOARD			
		**********			
		< CONNECTOR >			
CN703	1-750-186-11	CONNECTOR, BOARD TO BOARD 6P			
		< RESISTOR >			
R701	1-249-415-11	CARBON	680	5%	1/4W F
R702	1-249-417-11	CARBON	1K	5%	1/4W F
R703	1-249-419-11	CARBON	1.5K	5%	1/4W F
R704	1-249-421-11	CARBON	2.2K	5%	1/4W F
R705	1-247-843-11	CARBON	3.3K	5%	1/4W
R706	1-249-427-11	CARBON	6.8K	5%	1/4W F
R707	1-249-431-11	CARBON	15K	5%	1/4W
R708	1-247-843-11	CARBON	3.3K	5%	1/4W (CE415)
R708	1-249-417-11	CARBON	1K	5%	1/4W F (C360Z)
R709	1-249-419-11	CARBON	1.5K	5%	1/4W F (C360Z)
R709	1-249-427-11	CARBON	6.8K	5%	1/4W F (CE415)
		< SWITCH >			
S701	1-554-303-21	SWITCH, TACTILE(DISC 1)			
S702	1-554-303-21	SWITCH, TACTILE(DISC 2)			
S703	1-554-303-21	SWITCH, TACTILE(DISC 3)			
S704	1-554-303-21	SWITCH, TACTILE(DISC 4)			
S705	1-554-303-21	SWITCH, TACTILE(DISC 5)			
S706	1-554-303-21	SWITCH, TACTILE(CONTINUE)			
S707	1-554-303-21	SWITCH, TACTILE(SHUFFLE)			
S708	1-554-303-21	SWITCH, TACTILE(PROGRAM)			
S709	1-554-303-21	SWITCH, TACTILE(REPEAT)			
S710	1-554-303-21	SWITCH, TACTILE (C360Z:TIME, CE415:DISC CHECK)			
S751	1-554-118-00	SWITCH, PUSH (1 KEY)(POWER)			

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*	1-659-737-11	SENSOR BOARD			
		**********			
		< CONNECTOR >			
CN851	1-573-383-11	PIN, CONNECTOR (PC BOARD) 2P			
CN852	1-750-243-11	SOCKET, CONNECTOR 6P			
		< DIODE >			
D851	8-749-924-18	DIODE PHOTO INTERRUPTER RPI-1391			
D852	8-749-924-30	DIODE PHOTO REFLECTOR GP2S28			
		< RESISTOR >			
R851	1-249-416-11	CARBON	820	5%	1/4W F
R852	1-249-406-11	CARBON	120	5%	1/4W F

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TABLE MOTOR

Ref. No.	Part No.	Description	Remarks
*	1-647-364-11	TABLE MOTOR BOARD	
		**********	
		< MOTOR >	
M801	A-4660-525-A	MOTOR ASSY, ROTARY (TABLE)	
**********			
		MISCELLANEOUS	
		**********	
7	1-777-839-11	WIRE (FLAT TYPE) (37 CORE)	
9	1-777-838-11	WIRE (FLAT TYPE) (6 CORE)	
⚠59	1-590-926-11	CORD, POWER	
72	1-751-052-11	WIRE (FLAT TYPE) (6 CORE)	
105	1-466-996-11	ENCODER, ROTARY	
109	1-765-443-11	WIRE (FLAT TYPE) (23 CORE)	
* 125	1-452-879-31	MAGNET	
⚠751	8-848-379-31	OPTICAL PICK-UP KSS-213B/S-N	
752	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M801	A-4660-525-A	MOTOR ASSY, ROTARY (TABLE)	
M802	A-4660-914-A	MOTOR ASSY, LOADING	
⚠T601	1-429-956-11	TRANSFORMER, POWER	
**********			

Ref. No.	Part No.	Description	Remarks
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-475-087-11	REMOTE COMMANDER (RM-DC43)	
	1-558-271-11	CORD, CONNECTION (AUDIO)	
	1-777-241-11	CORD, CONNECTION (CONTROL A1)	(CE415:Canadian)
	3-859-178-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-859-178-21	MANUAL, INSTRUCTION (FRENCH)	(CE415:Canadin)
	4-983-956-01	COVER, BATTERY (FOR RM-DC43)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#2	7-685-872-09	SCREW +BVTT 3X8 (S)	
#3	7-685-648-79	SCREW (M3X12), TAPPING	
#4	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#5	7-621-772-00	SCREW +B 2X3	
#6	7-685-134-19	SCREW (+ PTPWH) (2.6X8)	
#7	7-621-255-15	SCREW +P 2X3	
#8	7-685-871-01	SCREW +BVTT 3X6 (S)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.